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motor common carrier freight rate study

for nine western states

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Final Report

PART I: TEXT

PREPARED FOR
FEDERATION OF ROCKY MOUNTAIN STATES, INC.
DENVER, COLORADO 80211
IN COOPERATION WITH
OLD WEST REGIONAL COMMISSION
WASHINGTON, D.C. 20036

PREFACE

The purpose of this study is to investigate the impact of the present interstate motor freight carrier system on the economic development of nine western states--the member states of the Old West Regional Commission (Montana, Nebraska, North Dakota, South Dakota and Wyoming) and Colorado, Idaho, New Mexico and Utah. The Federation of Rocky Mountain States, Inc., which supervised preparation of this study, includes Colorado, Idaho, New Mexico, Montana, Utah and Wyoming. Because of the mutual economic interests of the western states, this kind of multi-state cooperation is appropriate.

A sound and efficient transportation system picking up and delivering freight, at reasonable rates, is essential for the growth and development of this large but sparsely settled area. This study examines the motor carrier service availability and rate structure in the study area. The rate studies are preceded by a consideration of the availability of carrier service.

This report consists of nine chapters organized to provide a logical approach to the specific tasks listed in the project's work statement. Chapter 1 describes the nature of the study area, transportation facilities, and the selection process for representative points, external competitive points and internal representative points. The availability of carrier service and certificate restrictions are discussed in Chapter 2, providing background about the companies that established the rate structures discussed later. The first part of Chapter 3 presents reasonably elementary information; the second part discusses rate structures as they relate to freight forwarder, rail and other modes of transportation. Chapter 4 establishes some hypotheses about regional motor carrier rates. These hypotheses aid in giving form to the representative freight rate data that have been assembled in Chapter 5. Chapter 5 begins an analysis of this data to illustrate the characteristics of the rate structure, including geographical groupings of points, arbitrary scales, and relationship of through and local rates. Chapter 6 discusses the relationship of rates to mileage criteria. The extent of existing commodity rates is dealt with in Chapter 7, and the economic impact of rate structures and service availability are treated in Chapter 8. Finally, Chapter 9 discusses possible programs of change and mentions alternate ways of dealing with rates and service problems if they are deemed serious enough for action.

Freight rate economics, structure and publication are not subjects which lend themselves well to analysis by mathematical and statistical techniques. Exercises attempting to relate dependent to independent variables usually result in proving the simpler propositions which were already obvious to the transportation expert. A more useful course is to assemble data in orderly fashion and subject it to analysis by various experts so that an averaging of their views produces an objective result.

Such a method was used in this project and valuable inputs have been contributed by participants throughout the nine-state project study area. This gives the study a degree of representativeness that would not have been possible had the effort been completely centralized. The following summary includes most of those who have contributed.

The project coordinator for the Old West Regional Commission was Robert DeMersseman of Rapid City, South Dakota.

The prime contractor for the project was the Federation of Rocky Mountain States, Inc., headquartered in Denver, Colorado, under the leadership of Jack M. Campbell, president.

General supervision of the project was the responsibility of Dr. Donald W. Galvin, vice president of the Federation. Dr. Galvin coordinated all phases of the study and maintained liaison with the Regulatory Agencies Committee of the Federation's Transportation Council, which carefully monitored each step in the preparation of the report.

Each member of this Federation committee is a transportation authority who provided significant information at each of the monthly meetings held during preparation of the report. They are:

Chairman: Ralph H. Knull, Supervising Rate Expert
Colorado Public Utilities Commission

Charles Brown, Transportation Rate Analyst
Idaho Public Utilities Commission

F. G. Fisher, Administrator
Montana Public Service Commission

James Payne, Director Rates and Services
Nebraska Public Service Commission

Howard A. Geis, formerly Director Traffic and Rate Division
New Mexico State Corporation Commission

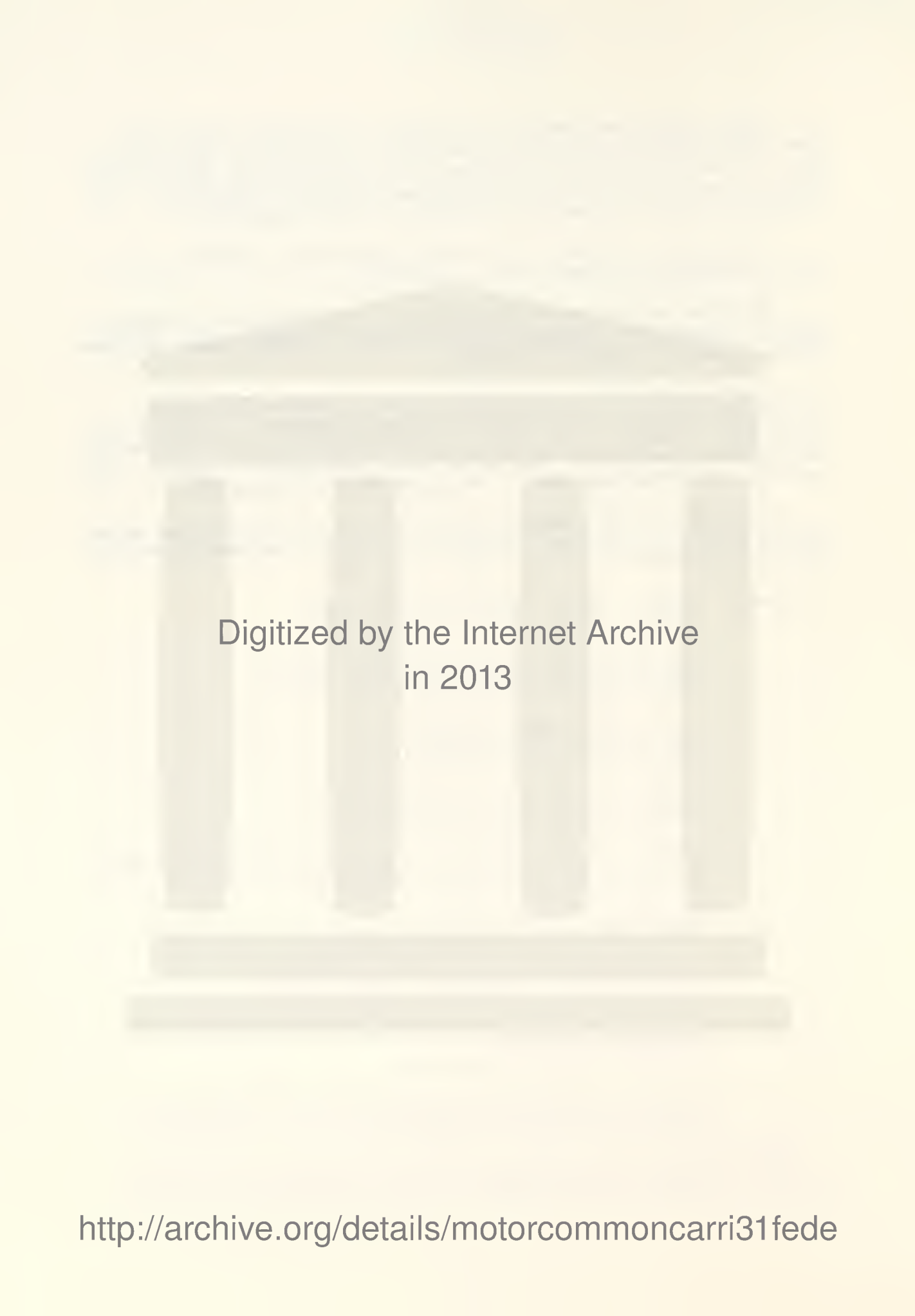
Tom Wright, Traffic Director
North Dakota Public Service Commission

E. P. Springer, Transportation Rate Analyst
South Dakota Public Utilities Commission

Ron Casper, Secretary
Utah Public Service Commission

William L. Johnson, Director Rate and Tariff Department
Wyoming Public Service Commission

The principal research team was made up of members of the consulting staff of Mountain States Commerce & Traffic Services, Inc., of



Denver, Colorado. This organization, in addition, provided access to extensive files of data and its complete freight rate tariff library. Participating members of the staff were:

Gerald T. Boyle, M.A., Registered Practitioner before the ICC and President, Mountain States Commerce & Traffic Services

Paul T. McElhiney, Ph.D., Registered Practitioner, Principal Investigator, on leave as Professor and Marketing and Transportation from California State University, Los Angeles

John H. Anderson, General Manager, Mountain States Commerce & Traffic Services

Carl B. Hewett, Registered Practitioner

Winston A. Hollard, Registered Practitioner

James G. Murray, Consultant

Mrs. Edna Parr, art work

Information and advice about freight rates and rate structures in other states were provided by individual outside consulting firms and experts. Some of the freight rate maps were also prepared by these organizations, which are as follows:

F. L. Sigloh & Associates, Boise, Idaho

A. Milton Evans, formerly of Western South Dakota Traffic Bureau, Rapid City, South Dakota

H. E. Colwell, Intermountain Traffic Service, Salt Lake City, Utah

The typescript, design of tables and charts, editing and proofreading of the many drafts and issues of the report were performed by Sylvia Blomquist of the Federation of Rocky Mountain States.

The primary author wishes to thank all those named and all unnamed persons who contributed to this worthy group effort.

Paul McElhiney
Denver, Colorado
1975

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MOTOR COMMON CARRIER FREIGHT RATE STUDY

CHAPTER 1

Introduction

Project Study Area

Attention is directed to Map 1.1 in Appendix 1 to this report. Map 1.1 illustrates the geographic area included in the carrier and rate investigations of this study. This territory is the nine states of Colorado, Idaho, Montana, Nebraska, New Mexico, North Dakota, South Dakota, Utah and Wyoming.

The largest city in the project study area is Denver, Colorado, which acts as a focal point for much of the transportation in the region. This is indicated by the 700-mile circle drawn around Denver on Map 1.1. Nearly all of the study area is included within this radius. Although Denver's location is significant, it must not obscure the fact that other parts of the region, particularly those at the periphery, look with more interest toward other distribution centers. For example, Chicago, Kansas City, Minneapolis-St. Paul, and St. Louis play a vital role in the marketing picture and rate structure affecting the Dakotas and Nebraska.

Nature of the Study Area

The study area states offer an economic potential far greater than has been developed to date. However, the character of the region itself makes economic development difficult. Without adequate, flexible and economical transportation such growth becomes even more difficult, if not impossible.

Compared with the other parts of the nation, these states are characterized by great differences in geography, climate and productivity of the land as well as low density of population and relatively great distances between major cities.

The area by states is as follows: [1]

State	Square Miles
Colorado	104,247
Idaho	83,557
Montana	147,138
Nebraska	77,227
New Mexico	121,666
North Dakota	70,665
South Dakota	77,047
Utah	84,916
Wyoming	97,914
Total	864,377

The states are ranked as follows by total population as reported by the Bureau of Census in 1970: [2]

Colorado	28th
Nebraska	35th
New Mexico	37th
Utah	36th
Montana	43rd
Idaho	42nd
Wyoming	49th
South Dakota	44th
North Dakota	45th

A very large percentage of each of these states has less than five persons per square mile.

As enumerated in the 1970 Census of Population, there were 156 cities in the United States having a population of 100,000 or more. Six were in the study area, as follows: [3]

City	Population	Rank
Denver, Colorado	515,000	25th
Albuquerque, New Mexico	244,000	58th
Salt Lake City, Utah	176,000	74th
Colorado Springs, Colorado	135,000	103rd
Lincoln, Nebraska	150,000	91st
Omaha, Nebraska	347,000	41st

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[1] United States Department of Commerce, Bureau of the Census, The Statistical Abstract of the United States, 94th edition, current to September 1974, Table 280, p. 172.

[2] Ibid., Table 13, p. 13.

[3] Ibid., Table 18, p. 18, and Table 21, p. 21.

Transportation Facilities

The project study area is served by all modern forms of transportation except waterways. Pertinent statistics are as follows:[4]

State	Railroad Mileage	Mileage of Roads and Streets	Total Motor Vehicles Registered	Number of Trucks Registered
Colorado	3,521	81,870	1,680,000	388,000
Idaho	2,659	57,144	550,000	156,000
Montana	4,901	77,920	584,000	201,000
Nebraska	5,332	98,765	1,081,000	291,000
New Mexico	2,085	68,371	711,000	201,000
North Dakota	5,079	106,530	464,000	167,000
South Dakota	3,379	84,078	463,000	141,000
Utah	1,734	40,981	741,000	192,000
Wyoming	1,790	40,540	274,000	95,000
	30,480	656,199	7,475,000	1,832,000

In these states there is about one mile of railroad for each 30 to 40 square miles of land area. The average for the balance of the continental United States is 11 square miles of land per mile of railroad, and in the mid-Atlantic states the density is one railroad mile per 6 square land miles. Because of its sparse population, which indicates a low freight generating capacity and because of the low density of its railroad mileage, the project study area is undoubtedly more dependent upon automotive transportation for economic development than are other parts of the country.

Selection of Representative Points

Transportation scholars tell us that there are more than 4,700,000 possible rail routes between Dallas, Texas, and Detroit, Michigan, and that there are over 205,000 active freight tariffs on file with the Interstate Commerce Commission.[5]

Clearly, an analysis of motor carrier availability and freight rates in the nine states of the combined Old West/Federation region could easily attain a similar complexity unless the examination were limited. Therefore, the various analyses in this study are based upon a reasonably few representative points. However, in several cases various "hinterland" points in the respective states have been considered as well.

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[4]Association of American Railroads, Railroad Facts, 1974, (Washington: Association of American Railroads, 1974) p. 49; U. S. Statistical Abstract, previously cited, Table 892, p. 541.

[5]Roy J. Sampson and Martin T. Farris, Domestic Transportation, Second Edition, (Boston: Houghton-Mifflin Company, 1971), p. 161.

Three categories of representative points were established. These were designated as (1) External Competitive Points and (2) Internal Representative Points.

External Competitive Points

The U.S. Bureau of the Census tabulates so-called Standard Metropolitan Statistical Areas (SMSA), which include the central city and the population of the contiguous metropolitan area as defined by the Bureau of the Census as "a county or group of contiguous counties which contains at least one central city of 50,000 inhabitants or more or 'twin cities' with a combined population of at least 50,000. In addition, other contiguous counties are included in an SMSA if, according to certain criteria, they are essentially metropolitan in character and are socially and economically integrated with the central city." Thirteen of these areas lie within the states of the Old West/Federation project area. They are as follows:

Colorado:	Denver, Colorado Springs, Pueblo
Idaho:	Boise
Montana:	Billings, Great Falls
Nebraska:	Omaha, Lincoln
New Mexico:	Albuquerque
North Dakota:	Fargo
South Dakota:	Sioux Falls
Utah:	Salt Lake City-Ogden, Provo-Orem

By any measure of economic activity, Denver, Colorado, is the largest of these SMSA's. As indicated by the circle on Map 1.1, the other twelve SMSA's are all located within a radius of 700 miles of Denver. Also located approximately within this circle are twenty-five other SMSA's which are not in the Old West/Federation region.

The External Competitive Points selected are essentially SMSA's located outside the periphery of the Old West/Federation project study as determined by a circle having a radius of 700 miles centered in Denver, Colorado. In the case of cities to the east, the points chosen would be intermediate rate-wise to freight-generating points further east and have the same general rate characteristics other than rate level.

The External Competitive Points are:

Seattle, Washington
Portland, Oregon
San Francisco, California
Los Angeles, California
San Diego, California
Dallas, Texas
Little Rock, Arkansas
St. Louis, Missouri
Chicago, Illinois
Minneapolis-St. Paul, Minnesota

There are also approximately forty moderate to large size cities in and around the "zone of influence" of the project study area which are potential freight generating points and which may originate shipments with and between each other. Cities from this group were also selected. They are:

Spokane, Washington
Boise, Idaho
Salt Lake City, Utah
Las Vegas, Nevada
Phoenix, Arizona
Albuquerque, New Mexico
El Paso, Texas
Amarillo, Texas
Oklahoma City, Oklahoma
Grand Junction, Colorado
Denver, Colorado
Pueblo, Colorado
Kansas City, Missouri
Omaha, Nebraska
Rapid City, South Dakota
Bismarck, North Dakota
Billings, Montana
Great Falls, Montana
Casper, Wyoming
Cheyenne, Wyoming

Internal Representative Points

The Internal Representative Points were chosen as the major freight generating points in each state of the Old West/Federation project area. On the premise that number of employees, size of payrolls, and number of business establishments are valid indicators of economic activity and freight-generating capacity, the leading ten counties were identified for each state of the project study area by reference to Bureau of the Census publication County Business Patterns. The most populous city or town in each county was selected as an Internal Representative Point. Some adjustments were then made upon the advice of transportation experts from each state.[6] The reader who wishes to examine these data may refer to Table 1.1 in Appendix 1 to this report.

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[6]Upon the advice of representatives from the particular states, additional points have been added for Montana, Utah, and Wyoming in order to give better coverage of the states. Devils Lake, North Dakota, did not appear in the county data analysis in Table 1 but was added upon recommendation of committee members from that state.

The cities selected as Internal Representative Points are:

Colorado

Aspen
Colorado Springs
Denver
Durango
Fort Collins
Grand Junction
Greeley
La Junta
Pueblo
Sterling

Idaho

Blackfoot
Boise
Burley
Coeur d'Alene
Idaho Falls
Lewiston
Nampa
Pocatello
Twin Falls
Wallace

Montana

Billings
Bozeman
Butte
Glasgow
Great Falls
Havre
Helena
Kalispell
Miles City
Missoula

Nebraska

Columbus
Fremont
Grand Island
Hastings
Kearney
Lincoln
Norfolk
North Platte
Omaha
Scottsbluff

New Mexico

Alamogordo
Albuquerque
Carlsbad
Clovis
Farmington
Gallup
Hobbs
Las Cruces
Roswell
Santa Fe

North Dakota

Bismarck
Devils Lake
Dickinson
Fargo
Grand Forks
Jamestown
Langdon
Mandan
Minot
Williston

South Dakota

Aberdeen
Brookings
Huron
Lead
Mitchell
Pierre
Rapid City
Sioux Falls
Watertown
Yankton

Utah

Logan
Moab
Nephi
Price
Richfield
St. George
Salt Lake City
Tooele
Vernal
Wendover

Wyoming

Casper
Cheyenne
Cody
Gillette
Jackson
Laramie
Newcastle
Rawlins
Rock Springs
Riverton
Sheridan

CHAPTER 2

Availability of Motor Carrier Service

The states in the Old West/Federation project study area are among the least populous in the nation. Many of the settlements in these states generate only very small volumes of freight movement. Commercial carriers are reluctant to provide frequent, regular service to places which do not ship in sufficient volume to produce reasonably profitable loads. On the other hand, common carriers have a legal duty to provide service for the public. This chapter deals with the transportation alternatives open to shippers in the Old West/Federation region. It provides a measure of the motor freight carrier population, although such measures are difficult due to the makeup of the motor carrier industry. The last point will subsequently be explained further. First, intermodal alternatives are examined.

Availability of All Modes

Attention is directed to Table 2.1 in Appendix 2 to this report. This table lists all incorporated places of 500 or more population and unincorporated places of 1000 or more population in the nine-state study area. Figures are according to the 1970 Census. In addition to population for each point are shown type of air carrier service (if any), railroad upon which located (if any), and approximate number of motor carriers authorized to serve the point (or the associated point at which service is provided). Some of the data from the table may be recapitulated as follows:

Total points shown in nine-state area	1032
Number of points authorized truck service (or in delivery scope of adjacent or related point)	1032
Number of points located on rail lines	814
Number of points with air carrier service	98

Actual Provision of Service

This tabulation emphasizes the dependency of the area upon motor freight carrier service. However, it must not be concluded that all motor freight carriers shown for each point provide an active service there. The situation is much different from that of rail and air carriers.

Rail Carriers

If a rail carrier has trackage at a given city or town, it may be concluded that some sort of rail service is available. This may not be a full range of service as in recent decades railroads have closed many unprofitable freight stations. They are no longer "open" stations. At such places service is usually provided on a "prepay" basis. Since there

is no agent, freight charges on incoming shipments must be prepaid. Arrangements for important outbound shipments can usually be made with the agent at a more important town nearby. This trend is part of the railroad program to no longer handle small shipments which require freight house handling and to concentrate upon carload traffic.

The freight tariff requirements which are similar for most Western railroads provide an example:

1. (a) Rates will apply on less-than-carload shipments loaded in the same car with a carload shipment when such shipments are loaded by and received from the same consignor and destined to and unloaded by the same consignee as the carload shipment.

   (b) Rates will apply on less-than-carload shipments loaded in the same trailer with a trailerload shipment when such shipments are received from the same consignor and destined to the same consignee as the trailerload shipment.

2. Rates will apply on less-than-carload shipments of automobile parts moving in cars containing shipping devices for automobile parts which are in assigned service, when returning from destination to original shipping point via the reverse route of the inbound carload shipment.

3. Rates will apply on less-than-carload shipments tendered as 4000 pounds or more (depending on the railroad) loaded in or on one car when from one consignor at one point of origin on one bill of lading to one consignee at one destination, provided that when originating at and/or terminating at points on the designated railroad company shipment is loaded by consignor and unloaded by consignee on public team tracks or private industry tracks served by the railroad direct and does not require the railroad to perform break-bulk or freight house handling.

If a rail carrier desires to abandon a particular piece of trackage entirely, it must obtain a certificate from the Interstate Commerce Commission allowing it to do so.

Air Carriers

If a local service (designated on Table 2.1 by F) or a domestic trunk air carrier (designated on Table 2.1 as T) is listed as serving a particular point, one may safely assume that service is actually provided. The Civil Aeronautics Board is empowered under Section 401(f) of the Federal Aviation Act of 1958 to order (after proper notice and hearing) that unused certificates cease to be effective.

Motor Carriers

For-hire motor carriers present a different service availability situation. First is the matter of whether they are common, contract, or exempt carriers. These carrier types are defined in an explanatory footnote.[1] This study is concerned only with the freight rates of interstate common carriers.

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[1]Explanatory footnote regarding types of carriers:

Common Carriers: Common carriers are those which will perform their service for the general public. They cannot refuse service to anyone except for good cause, their rates and charges must be reasonable, and they must treat everyone reasonably equally. However, one cannot demand that they perform a service which they are not accustomed to perform. Interstate common carriers are, of course, regulated by the ICC.

The document which is used to give operating authority to a common carrier is called a certificate of public convenience and necessity. A new common carrier service must obtain such a certificate. The certificate specifies what route or territory a carrier may cover, and with truck lines the type of schedule and commodity to be carried are specified.

Contract Carriers: Contract carriers have only been recognized as a type of public carrier in the United States since 1935, and then only in trucking and domestic water transport. Contract carriers provide for-hire transportation only under long-term contracts with a few customers. They may refuse service and, under regulation, must not sell service to anyone with whom they do not have a contract nor attempt to attract an unreasonably large number of customers. Interstate contract carriers are regulated by the ICC.

Exempt Carriers: Some for-hire motor carriers are not subject to economic regulation by the ICC. This means that they can begin or end operation without permission and negotiate any rate or contract provisions the customer will accept. Of course, if they hold themselves out to the public, they probably would be held by the courts to be common carriers and liable as such under the Common Law, but they would still be an unregulated common carrier so far as they fell into one of the following groups:

The specific categories of carriers which are exempt from ICC regulation are as follows: (1) motor vehicles employed solely in transporting school children and teachers to or from school; (2) taxicabs, or other motor vehicles performing a bona fide taxicab service, having a capacity of not more than six passengers and not operated on a regular route or between fixed termini; (3) motor vehicles owned or operated by or on behalf of hotels and used exclusively for the transportation of hotel patrons between hotels and local railroad or other common carrier stations; (4) motor vehicles operated, under authorization, regulation and control of the Secretary of the Interior, principally for the

Second, common carriers may be limited by the Interstate Commerce Commission as to the commodities they may haul. In the early days of motor carrier regulation, in a proceeding known as Ex Parte MC10, the Interstate Commerce Commission set forth a listing of seventeen commodity groups for which motor carriers would be granted operating rights. The certificates and permits which the Commission issues to motor carriers may specify one or a combination of commodity rights. The seventeen specialities thus created are as follows:

1. Carriers of General Freight
2. Carriers of Household Goods
3. Carriers of Heavy Machinery
4. Carriers of Liquid Petroleum Products
5. Carriers of Refrigerated Liquid Products
6. Carriers of Refrigerated Solid Products
7. Carriers Engaged in Dump Trucking
8. Carriers of Agricultural Commodities
9. Carriers of Motor Vehicles
10. Carriers Engaged in Armored Truck Service
11. Carriers of Building Materials
12. Carriers of Films and Associated Commodities
13. Carriers of Forest Products
14. Carriers of Mine Ores not Including Coal
15. Carriers Engaged in Retail Store Delivery Service
16. Carriers of Explosives or Dangerous Articles
17. Carriers of Specific Commodities not Sub-grouped

Third, interstate motor carriers may be granted different types of routes and schedules ranging from Regular Route, Scheduled Service through Regular Route, Non-Scheduled Service to Irregular Route Service which may be radial in scope. Probably the greatest number of regular route,

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purpose of transporting persons in and about the national parks and national monuments; (4a) motor vehicles controlled and operated by any farmer when used in the transportation of his agricultural commodities and products thereof, or in the transportation of supplies to his farm; (5) motor vehicles controlled and operated by a cooperative association as defined in the Agricultural Marketing Act...; (6) motor vehicles used in carrying property consisting of ordinary livestock, fish (including shell fish), or agricultural commodities (not including manufactured products thereof), if such motor vehicles are not used in carrying any other property, or passengers, for compensation; (7) motor vehicles used exclusively in the distribution of newspapers; (7a) the transportation of persons or property by motor vehicle when incidental to transportation by aircraft; (8) the transportation of passengers or property in interstate or foreign commerce wholly within a municipality or between contiguous municipalities; (9) the casual, occasional, or reciprocal transportation of passengers or property by motor vehicle in interstate or foreign commerce for compensation by any person not engaged in transportation by motor vehicle as a regular occupation or business; (10) the emergency transportation of any accidentally wrecked or disabled vehicle in interstate or foreign commerce by towing. In the interest of simplicity some special qualifications which the law puts on some of these categories have been left out.

regular scheduled carriers hold general freight certificates. Carriers which are restricted to one or a few commodities more often hold certificates of the non-scheduled or irregular route variety.

This explanation is necessary to understand the relatively large number of motor freight carriers which are shown serving each point in Table 2.1. The right-hand column shows the approximate number of interstate, certificated, common, regular route, and irregular route carriers of general freight and various commodities serving the points indicated. Since not all carriers participate in the tariffs and guides researched, the number is approximate. Another way of classifying the information is to show the number of towns having different multiples of motor freight carrier service as follows:

State	10 or More Carriers	6-9 Carriers	3-5 Carriers	2 Carriers	1 Carrier
Colorado	107	33	15	0	2
Idaho	6	34	50	3	10
Montana	7	6	55	18	10
Nebraska	25	75	72	15	16
New Mexico	11	42	24	4	0
North Dakota	2	4	22	36	40
South Dakota	0	2	29	36	49
Utah	31	55	25	7	6
Wyoming	3	7	31	3	2
TOTALS	192	258	323	122	135

Sub-conclusion. One may see from Table 2.1 that air carriers serve less than 10 percent of the towns in the Old West/Federation region, and that over 200 points are without railroad trackage. The dependence of the area upon motor freight carriers is thus emphasized. A further examination of Table 2.1 in light of the above tabulation will show that the greater numbers of carriers are certificated to serve the larger towns and cities or those located along major highways.

Dormant rights. Motor freight carrier certificates or parts of certificated route structures which carriers are not actively operating are referred to as "dormant rights." Thus, the nature of air carrier and railroad regulation is such that when a carrier is present as indicated in our data, a service is actually being performed. The fact that a motor carrier is certificated to serve a town, however, does not mean that he is actually doing it. When traffic is sparse, long distance carriers may elect to turn the last part of a haul over to a local carrier, or they may reduce service to only a few schedules per week. When we

have a large percentage of points to which service is authorized for only one or two carriers, the chances of this happening are very great.

The position of the Interstate Commerce Commission toward dormant rights is essentially that as long as a carrier holds itself ready to perform a service (as evidenced by keeping its insurance in force), the Commission will refrain from requiring operation or revocation unless it appears the rights are merely being held for resale.[1]

Measuring Certificate Utilization

The Wyoming Public Service Commission did a study of the extent interstate motor freight carriers were serving points certificated. This appears as Exhibit 2.1 in Appendix 2. It reports a survey of the representative points selected for Wyoming (See Chapter 1). Comparison is made between the "holding out" to the public which the carriers make and the extent to which they actually serve the points advertised. Of 66 cases in which carriers advertise that they serve a point in Wyoming, 33, or exactly 50 percent, are shown as "Doubtful [if] serving."

Exhibit 2.2 in Appendix 2 presents a study, prepared by the Public Service Commission of North Dakota, showing the days of the week on which carriers serve certain towns on their authorized routes. This study showed that of fourteen carriers investigated, nine did not serve all of their authorized points every day.

Sub-conclusion

Although they are both samples, these two studies show something of the actual level of service performance to outlying areas in the nine-state study area. Although the number of carriers certificated to serve the territory, in general, is large, their actual presence at a "grass roots" level is not great. This, of course, may be a reflection of the sparse population and freight generating capacity of the area served.

Quality of Service

Closely related to the subject of the availability of transportation service is the quality of the service which is provided. Previous to the undertaking of the current study, the Regulatory Agencies Committee of the Transportation Council of the Federation of Rocky Mountain States circulated a "Transportation Survey" questionnaire through the good offices of the regulatory agencies of the member states. Tabulated responses were received from three states. This questionnaire, a recapitulation of responses and an analysis appear as Exhibit 2.3 in Appendix 2. Although this survey may have been inadvertently biased to elicit unfavorable responses, one cannot in any way conclude from the results that motor freight carrier service to small outlying communities is highly satisfactory to the users. This again may be a reflection of low carrier profitability because of sparse traffic.

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[1] Charles A. Toff, Commercial Motor Transportation, Third Edition (Homewood, Ill.: Richard D. Irwin, Inc., 1961), p. 582.

Gateway and Route Restrictions

When originally issued, some interstate motor freight carrier certificates contained various restrictions. Frequently these pertained to commodities to be carried; occasionally they restricted the route. This requires some explanation as certificates of public convenience and necessity are, of themselves, restricted to a particular commodity and route structure. Some certificates, however, contained additional restrictions such as limiting hauls to only one direction--thus effectively preventing the development of backhaul. Others required carriers to follow certain highways between two points although they were not allowed to serve intermediate points on these highways. Such restrictions might be called "inherent" since they came with the certificates, so to speak. Today, most of such restrictions have been "merged" out of carrier operating rights as larger companies have bought out the authorities of smaller ones.

In the same process, however, these carriers have created another sort of restriction through the tacking together of groups of operating authorities. These are sometimes referred to as "gateway restrictions" and occur when carriers piece together operating rights to form "through" route structures which were not originally conceived when the original small carrier operating certificates were issued. This phase of the study proposes to "Evaluate the Impact of Motor Carrier Certificate Restrictions Imposed by the ICC on the Adequacy of Service to the Rocky Mountain Region." *

The evaluation is to include data on gateway and route restrictions and the effect of such restrictions. Before proceeding, it appears that a definition of the terms "gateway restrictions" and "route restrictions" should be offered to prevent misunderstanding of the results or conclusions drawn from the study.

Two common descriptions of gateway restrictions are:

(a) The carrier's certificate contains a specific restriction requiring that certain points or territory must be served through a specified gateway.

(b) Gateways which exist due to tacking of separate grants of authority and which may, or may not, be specifically mentioned in the carrier's certificate.

Route restrictions would be contained in a carrier's certificate and would spell out the specific route or highway via which the carrier must operate to serve specified points.

In preparation for this report an examination was made of the ICC certificates of some 56 common carriers who provide service within all or

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*The portion of the chapter which follows was prepared by Ralph H. Knull, supervising rate expert, Colorado Public Utilities Commission.

a portion of the nine study area states. Insofar as the territory involved within the study area is concerned, no specific gateway restrictions as defined in (a) above were noted, although some may still exist.

Insofar as the (b) definition is concerned, numerous examples were noted and specific case studies of three of the more illustrative examples are reviewed below:

1. Garrett Freight Lines MC-263 (See Map 2.1, Appendix 2)

   Service between Denver, Colorado, and Albuquerque, New Mexico.
   Short Line Mileage - 422 miles
   Mileage via Garrett's route - 730 miles

   Explanation: The direct route from Denver to Albuquerque is over Interstate Highway 25, generally straight south of Denver. The authority of Garrett, as related to this example, includes a route from Denver to Salt Lake City, Utah, via Grand Junction, Colorado, and Crescent Junction, Utah. Another route goes from Salt Lake City via Crescent Junction and Cortez, Colorado, to Albuquerque. The carrier can, therefore, tack these two routes at Crescent Junction to provide service from Denver to Albuquerque. Garrett is, therefore, required to operate an additional 300 miles in excess of the short line miles to provide service between these points.

2. Barber Transportation Co. MC-97699 (See Map 2.2, Appendix 2)

   Service between Denver, Colorado, and Omaha, Nebraska.
   Direct Short Line Miles - 540 miles
   Mileage via Barber's route - 894 miles

   Explanation: The direct route between Denver and Omaha is on I-80 running generally east and west. In the Barber authority, Sub No. 22 authorizes service between Denver and Rapid City, South Dakota, through Cheyenne and Mule Creek Junction, Wyoming. In Sub No. 27, service is authorized between Rapid City and Omaha via I-90 to Sioux Falls, South Dakota, and I-29 from there to Omaha. If Barber were to provide service between Denver and Omaha by tacking these two subs at Rapid City, their route would be 354 miles or 40 percent greater than the short route.

3. Illinois-California Express (ICX) MC-48958 (See Map. 2.3, Appendix 2)

   Service between Denver, Colorado, and Salt Lake City, Utah.
   Direct Short Line Miles - 512 miles
   Mileage via ICX route - 1142 miles

   Explanation: Under Sub No. 61, ICX is authorized to operate between Denver and Flagstaff, Arizona, as an alternate route. Under Sub No. 102, they are authorized to serve between Phoenix, Arizona, and Salt Lake City, Utah, serving the intermediate point of Flagstaff. By joining Sub Nos. 61 and 102 at Flagstaff,

ICX would be authorized to provide service between Denver and Salt Lake City; however, their route would be 630 miles or 123 percent greater than the short line miles.

Insofar as these three examples are concerned, we must attempt to determine what the effect of these "gateway restrictions" might be on service or rates between these points. With respect to service, we find that three major carriers serve between Denver and Albuquerque on a daily basis; twelve carriers provide daily service, with two others serving two or three times per week, between Denver and Omaha; and six carriers provide unlimited service and one limited to a 200-pound maximum between Denver and Salt Lake City. Considering the population and the industry located at these points, we conclude that adequate service is being provided to the shipping public. With respect to rates, we find that the rates have been established on the short line mileages and that those carriers who do serve via the more circuitous routes are required by the competitive factors to observe the rates of the short line carriers. We conclude, therefore, that these gateway restrictions have had no detrimental effect upon the existing rate structures.

Finally, with respect to "route restrictions" as defined herein, no specific restrictions were noted which would cause a carrier to deviate from the normal short line route by any excessive amount, although cases may exist.

As far as the study area is concerned, it is concluded that the gateway restrictions which do exist are primarily due to the tacking of separate grants of authority, and that they have little, if any, impact upon the adequacy of service because of the number of carriers which do provide service via the direct routes.

Economic Effects of Irregular Carriers

This study deals with the rates of regular route, regularly scheduled, common carriers of general commodities. Obviously, however, one who suggested modifications in the overall carrier structure of the region would have to concern himself with the route and service patterns of all types of carriers. The various irregular route carriers, particularly of special commodities, may be of some importance in this context.

The Rocky Mountain region is much different, transportation-wise, from other large regions of the nation in that it does not have any water transportation. In other geographic regions water transportation often acts as a stabilizer, leveler, or perhaps even a depressant of transportation rates because it is so low in cost.[2]

In the project study area, because of its distances and low traffic densities, the irregular route common carrier of specialized commodities

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[2]Barge transportation is available at Omaha, Nebraska, and other points along the Missouri River and at Lewiston, Idaho, and other points on the Snake River. The competitive effect of this water transportation is not great upon other states in the project area.

has become well established. Originating, perhaps, as oil field haulers, heavy machinery, or even exempt agricultural haulers, these carriers have sought limited irregular common carrier commodity rights to provide themselves with backhaul across the long distances of the West. Since they deal in volume and have no terminal costs, their freight charges can be very attractive to the shipper. These carriers, to some extent, thus act as substitutes for water transportation in the region. Since they frequently publish their own specialized freight tariffs, their rates will not appear specifically in this analysis of motor freight carrier rates, but they are certainly having an effect on the rate structure, particularly that of bulk commodities.

The following chapter reviews basic freight rate terminology and concepts and discusses intermodal rate relationships.

CHAPTER 3

The Nature and Comparability of Freight Rates

The purpose of this chapter is twofold. The first section sets forth some of the characteristics of the freight rate system used in the United States. The technically oriented reader may wish to refer only to the discussion appearing under the heading "Modal Comparison of Freight Rates" in the last few pages of this chapter.

Freight Rate Characteristics and Terminology[1]

Many freight tariffs are in use in the United States and they contain thousands of freight rates. Mistakes in assessing rates are often made because of the large number of alternative routings and the large numbers of commodity descriptions which are available. The misconception prevails that freight rates are difficult to look up. This is untrue; freight tariffs are tedious but simple to use. On the majority of shipments, the rate clerk finds the correct rate quickly the first time he looks for it.

Rate Terminology

Freight rates are prices which are charged for the transportation of property. They are published in formal price lists or schedules known as tariffs. Freight rate tariffs must be approved by and be on file with the appropriate regulatory agency. Freight rates may cover all or only part of the services necessary for a through movement. For instance, a rate may include pick up and delivery service or it may cover only a "station-to-station" or a "dock-to-dock" movement. Some tariffs give only accessorial charges for some additional service the customer can buy, such as weighing, loading, or protective service. Railroad and motor truck rates are usually charged in cents per hundred pounds. Traditionally, rates have been different for different commodities as well as increasing with distance.

Tapering Principle of Freight Rates

Every transportation journey requires the expenditure of effort to get it started and to terminate it. These include the activities of pickup, assembling, loading, sorting, unloading, delivery, and necessary documentation. For shipments of the same relative size, these start-up or terminal costs are about the same regardless of how far the movement continues. Pickup and delivery costs, for instance, are the same for a 250-pound consignment whether it is to travel ten miles or a thousand

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[1]This material was adapted from Paul T. McElhiney, Transportation for Marketing and Business Students (Totowa, N.J.: Littlefield, Adams & Co., in production 1975).

miles. With the longer distance, however, the costs may be spread over a greater number of mileage units, and the rate, on a per mile basis, will be less than for the shorter move. In other words, although the rate per hundredweight increases as distance increases, it does not increase as fast, so the rate per mile actually decreases. Because of this effect, freight rates are said to "taper" as distance increases.

Rates Based on Volume

If the transportation company can be sure of handling a full carload, truckload, shipload, or even planeload of goods (or people), it can average its costs over the entire capacity of the vehicle. The charge per pound, hundredweight, ton, or person can be much less than when the average, scheduled trip is expected to depart only half loaded. To encourage people to use the entire capacity which is available, most carriers publish rates to attract large-volume shipments. Thus, another general rule is that, within limits, the more one ships at one time, the less will be the charge per unit shipped.

Railroad and motor freight carriers traditionally have had two basic scales of volume related rates--LCL or LTL rates for shipments not requiring an entire vehicle and CL or TL rates for full carloads or truckloads. Usually, there is a substantial spread between these two categories. Truck lines usually give additional spreads or weight breaks in LTL rate scales. (These are often called "grasshopper" scales.) For instance, if one looks up an LTL rate in a truck tariff he may discover that the rate decreases a few cents at, perhaps, the 1,000-pound level and again at the 2,000- and 10,000-pound levels. Freight tariffs also contain a rule dealing with the application of rates on volume shipments. Usually this rule reads something like, "When the charges accruing on a shipment based on actual weight exceed the charges computed on a rate based on a greater unit of minimum weight, the latter shall apply." This rule takes care of the "weight break" situation. That is, if it is cheaper to say that something is heavier than it actually is, it is all right to do this.

Rates Affected by Type of Journey

Some freight rate terms come from the way the journey is made up. A local rate is one for a haul all on the lines of one carrier. When carriers were small, a local rate really applied only in one locality because the carriers did not go very far. However, on the huge systems of today a local rate conceivably could reach across the country--the test is that only one carrier is involved.

When two or more carriers agree to establish a through route, the rate which they charge for the combined haul is called a joint rate.

A through rate is frequently defined as a single factor rate published in one tariff and which covers the shipment all the way from origin to destination. It can be local, all on the lines of one carrier, or it can be joint with two or more carriers sharing the revenue. The test is that the through rate is published as a single amount for the entire line haul.

When there is no through rate published from a certain origin to a certain destination, it may be necessary to build a rate by putting together a combination of local rates. This may involve just one carrier, or on a transcontinental basis it might necessitate combining local rates from two or more carriers.

Systems of Rate Publication

If a separate rate were published for every commodity that could move on every possible haul, the freight rate situation would be a lot more complicated. The problem of simplifying tariffs has led to two basic rate systems, class rates and commodity rates.

Class rates. The class rate system was the earliest attempt of commercial carriers to simplify freight rates. Early wagon and barge lines posted rates which applied to classes of commodities rather than to the commodities themselves. Products were grouped together by their transportation characteristics and a rate published for the whole group rather than for each separate commodity. Transportation characteristics are those aspects of a good which affect the cost of transporting it. Size, bulkiness, or density and value of the article are such characteristics; also, such things as the quantity of the freight which moves at one time, the regularity of the movement, the direction of movement and perishability of the goods. These and similar factors were considered by early transport men to produce a listing of goods called a classification. This list sorted all goods into about four major groups which were numbered 1, 2, 3, and 4 and called class ratings. The carrier then provided only four rates between the towns on his route and did not need to list a separate rate for each and every commodity offered to him. These were referred to as the first-class rate, the second-class rate, and so on.

A classification is a freight tariff which is essential to the class system of rate publication. Classifications contain shipping rules and regulations, descriptions of commodities, packing requirements and other information. Their most important function, however, is to classify into a few categories all the products which are shipped. These categories are called class ratings. A class rating is not a price for transportation service. It is merely a designation of the group that a commodity falls into, and a rate, or price, must be found for it from one town to another. Since commodities are arranged in the classification tariff under "generic" headings or in "families," ratings can be obtained even for unlisted articles by taking the general rating for the generic group or by taking the rating of the article to which they are most similar.

Several classifications are in use in the United States today. Some of them apply only to specific regions; all of them apply only to specific tariffs. Therefore, one must first refer to the class rate tariff to determine which classification the tariff is governed by. The two classifications which are most nearly nationwide in scope are the Uniform Freight Classification of the railroads and the National Motor Freight Classification, A-series (now 100-series) of the truck lines. These volumes use the same system of classification.

The classification system begins with a basic class rating of 100 representing 100 percent. Goods with extremely high cost shipping characteristics are rated in multiples of Class 100, being assigned ratings such as Class 150, Class 200, or Class 400. Goods with low cost shipping characteristics are assigned ratings ranging downward from 100 such as Class 85, Class 70, Class 55, and so on. Approximately 31 classes are used. In rail transportation, the class rates (prices) in the freight rate tariff originally had exactly the same percentage relationship to each other as the class ratings. In the trucking industry, class rates allegedly have only an approximate percentage relationship to each other.

Exceptions to classification. Previous discussion showed that carriers frequently desire to treat some commodity specially and give it a different class rate level from what the classification calls for. One way of doing this is to publish an exception to the classification. For instance, the classification assigns LTL shipments of fruit juice powder or crystals in boxes a class rating of Class 70. An individual carrier or group of carriers might wish to handle this at the same rate level at which grocery products are moving--say Class 55. So, an exception reducing the product to that rating will be published in the exceptions section of the class rate tariff.

Since many commodities are covered by each class rating, a class rate is, in a sense, an average rate for a range of articles with similar transportation characteristics. With the class rate system, one can find a rate for any commodity between any two points on the railroad network or the truck line network of the United States. However, a great deal of freight traffic and freight revenue is generated through commodity rates.

Commodity rates. Class rates apply on products which have similar transportation characteristics but not necessarily similar physical characteristics. Frequently, however, there is something about a product that makes it special. A carrier can often afford to charge much less than the established class rate for hauling a commodity if it moves in large quantities, or if he can be assured a regular movement, or if he needs the traffic to fill unused capacity, or for backhaul. In such cases, commodity rates are published. Commodity rate tariffs list articles directly by name and show the rates for them on a point-to-point basis. They are limited in scope and generally apply only over the routes where the majority of a particular traffic moves. A basic shipping rule, published in the rules of the Uniform Freight Classification and the National Motor Freight Classification, requires that, when both a class and a commodity rate are published for a certain commodity over a certain route, the commodity rate must be used instead of the class rate. Some tariffs take exception to this and allow the lower of the two rates to apply. Generally, however, the commodity rate must be used. Sometimes, when a carrier has a monopoly on a movement or when it is undesirable traffic, the commodity rate will be higher than the class rate. This is done when the carrier cannot afford to haul the product at the class rate and has nothing to gain by encouraging a volume movement of the traffic.

Rate Publication

Although the Interstate Commerce Act says the carrier shall "print" the freight tariffs, most freight tariffs today are created and published by carrier-owned, third party, non-profit associations. These are called freight bureaus, associations, or committees. For instance, cross-country rail rates are published by the Transcontinental Freight Bureau. There are about fifteen such agencies in each of the rail and truck modes. An agency has responsibility for a particular geographic region and generally publishes one set of tariffs used by all the carriers in that area.

Carriers delegate the authority to make freight tariffs to their rate bureaus by issuing powers of attorney to the bureaus as prescribed in Section 5a of the Interstate Commerce Act. A carrier may be a member of more than one rate association, and does not necessarily use every tariff published by each association. When a carrier does elect to adopt a particular tariff, he must execute a document called a concurrence to show that he is a participating carrier in that tariff. Tariffs issued by rate bureaus or associations are termed agency tariffs. Most carriers also issue some tariffs of their own; usually these are for local hauls or specific commodity rates. A tariff issued by the carrier itself is referred to as an individual tariff.

Rates of Interest in Current Study

The freight rates with which the current study is concerned are those of the common motor carriers of property operating into, out of and within the project study area states on an interstate basis. However, the work plan for this study calls for an illustration of the "structure of the rates as they relate to freight forwarder, rail, and other modes of transportation."

Modal Comparison of Freight Rates

The impression may often be gained by the public that our five basic modes of transportation are in direct competition with each other. This is not precisely true and may be seen in the following general and specific tabulations.

Attention is directed to Table 3.1 (in this chapter) entitled "Comparison of Transportation Modes." The modes of primary concern in the Old West/Federation region are those designated as "Highway" and "Railroad" in the table. These, of course, are general national comparisons. Significant differences are seen, however, which are borne out within the nine-state study area of this project.

First, the greater number of highway miles than rail miles (those shown are only part of the total of 3 million plus miles of roads and streets in the United States) indicates the wider availability of truck service.

The shorter "average length of haul" for trucks than for railroads (261 miles versus 497 miles) will predict that we may expect truck rates

TABLE 3.1

COMPARISON OF TRANSPORTATION MODES

Mode	Miles of Lines	Average Length of Haul (miles)	Share of Total Freight Ton-Miles	Share of Total Passenger-Miles	Average Cost per Ton-Mile (to user)
Airway	283,861	Cargo 1,147 Passenger 674	18/100%	9%	$00.2180
Highway	657,601	Truck 261 Bus 105	22%	Automobile 87% Bus 2%	00.0770
Oil Pipeline	209,478	Crude 297 Product 366	23%	0	00.0027
Railroad	207,500	Freight 497 Passenger 87	38%	8/10%	00.0140
Waterways Inland Great Lakes Domestic Deep Sea	25,543	Inland 330 Great Lakes 506 Domestic Deep Sea 1,509	10.6% 5.4%	3/10%	00.0028

Source: Transportation Facts and Trends, Washington, D.C., Transportation Association of America, 1973.

to be higher on a per-mile basis. This is true if for no other reason than that there are fewer units over which to amortize start-up costs and the effect of the tapering principle is less.

The greater share of total ton-miles which is accorded the railroads is indicative not only of greater length of haul but also of the carriage of larger volume shipments.

Volume and size of vehicle are again reflected in the average cost figures shown in the far right column of the table. Emphasis is made that these are average costs and that they represent a considerable range. If all truck shipments moved at 7.7 cents per ton-mile and all rail shipments at 1.4 cents per ton-mile, there would be no competition between the modes. In actuality, however, there is considerable overlap between the traffics of the two modes.

A Specific Comparison

Overlapping of traffic for which the modes compete does not mean that they are all always available as alternatives for the shipper to use. This is particularly true of small outlying towns in the Old West/Federation region.

Table 2.1 showed that motor freight carrier service and railroad service are the two modes most widely available in the project study area. Air carrier service is negligible in that it is present at less than ten percent of the points. Another type of carrier useful for freight shipments is the domestic surface freight forwarder which consolidates small shipments into volume lots and forwards them by rail or truck.

Actually, these various services are only all available to the shipper at the larger cities in the region. Even then, their services and rates are by no means directly comparable. An attempt to directly compare the class rates of different modes is misleading because of different services included in the rate, different minimum weight requirements and even different commodity descriptions. Table 3.2 (in this chapter) shows such a direct comparison between volume and less-than-volume rates between Denver and Los Angeles and Denver and Chicago.

The rate comparisons in Table 3.2 are not useful because there is no way of seeing how they would apply to a particular commodity. Comparison of these rates to the general table presented previously reveals some discrepancies between the progression of these rates and the progression of the "average cost per ton-mile" figures supposed to apply nationally. In addition, no meaningful comparison can be made of these rates as they apply to different lot sizes and different service levels. Since the rates above are all class rates, nothing is revealed as to the effect of commodity rates. It becomes necessary to consider the effect of the rates upon the movement of a particular commodity to illustrate the competitive relationship of the different modes.

TABLE 3.2

	Between Denver and:	Los Angeles	Chicago
	for:	Rate in cents per 100#	Rate in cents per 100#
VOLUME	Rail carload service (Class 45: 40,000# minimum weight)	598	402
VOLUME	Rail piggyback service (Freight all kinds, ramp to ramp service)	526: 30,000# min. wt.	141: 70,000# min. wt.
VOLUME	Motor carrier volume service (Class 45: 24,000# minimum weight)	455	336
LESS THAN VOLUME	Motor carrier less truckload service (Class 100 LTL)	1306	954
LESS THAN VOLUME	Freight forwarder (Class 100 less than 1000# lots)	1236	954 Westbound
LESS THAN VOLUME	Airfreight general commodity rate	1445	1655

SOURCES: Air Cargo Tariff CAB 169; J. L. Beeler Tariff #15; Freight Forwarder Tariff Bureau #2C; Rocky Mountain Motor Tariff Bureau Tariffs 303 and 521; Transcontinental Freight Bureau Tariffs 24, 230, and 1015A; Western Trunk Lines Tariff 1000A.

The practical example. An example was constructed for an actual commodity manufactured in Denver, Colorado.

The commodity is described as: Kits, washing, hand-held, sprayer and liquid soap or cleaning compound.

Origin: Denver, Colorado

Destination: Chicago, Illinois, and Los Angeles, California

These kits are listed in the freight classifications as follows:

Classification	Ratings: Less than Carload	Ratings: Carload
Rail, Uniform Classification No. 11, Item 55526	Class 85	Class 40 on minimum weight of 30,000#
Motor, National Motor Freight Classification, NMF 100A, Item 108382	Class 85	Class 40 on minimum weight of 30,000#

The rates in cents per hundred pounds which apply on the product are as follows:

From Denver:	to Los Angeles Rail Miles 1252 Highway Miles 1059			to Chicago Rail Miles 1006 Highway Miles 996		
Via:	LTV	Vol.	Volume Min. Weight	LTV	Vol.	Volume Min. Weight
Railroad:		(2) 536	on 30,000#	(8) 765	(9) 359	on 30,000#
Box car	(1) 1143	510	on 40,000#			
Piggyback, ramp to ramp		(11) 526	on 30,000#		(7) 141	on 70,000#
Motor Carrier	(4) 1107	(3) 390	on 10,000#	(5) 810	(5) 304	on 30,000#
		323	on 20,000#			
Freight Forwarder	(10) 1074			No eastbound service		
Air Cargo	(6) 1445			(6) 1655		

Explanations and sources:

LTV = less than volume, i.e., less than truckload or less than carload.

Vol.= volume

(continued)

(Explanations and sources, continued:)

(1) = Class 85 LCL rate, Transcontinental Freight Bureau Tariff 1015A; this service requires a minimum weight of 4000 or more, depending on railroad with shipper to load and consignee unload.

(2) = Commodity rates, Item 7085 Transcontinental Freight Bureau Tariff 1-W.

(3) = Commodity rates, Item 5888-I, Rocky Mountain Motor Tariff Bureau Tariff 225.

(4) = Class 85 rate, Rocky Mountain Motor Tariff Bureau Tariff 521.

(5) = Class 85 rate, Rocky Mountain Motor Tariff Bureau Tariff 303, and Class 40 on volume.

(6) = Air Cargo Tariff CAB 169.

(7) = TOFC (trailer on flat car) rate, Item 8060-N, Western Trunk Lines Tariff 445F.

(8) = Class 85 rate, Western Trunk Lines Tariff 1000A.

(9) = Class 40 rate, Western Trunk Lines Tariff 1000A.

(10) = Class 85, Ameri-Con Freight Forwarder tariff.

(11) = TOFC rate, Item 1955, Transcontinental Freight Bureau, Tariff 23-O.

The array of alternatives available to this shipper differs in several details from the previous comparison of class rates. It illustrates that a complete intermodal comparison of rates demands consideration on a commodity by commodity basis. Although class rates provide the "norm" or beginning point for the negotiation of rates by each mode, a comparison of class rate levels between modes is difficult because of service level differences.

Also, at most of the towns in the Old West/Federation area (see Table 2.1) this comparison would not be useful because the services are not widely available. Motor freight carrier or railroad boxcar service are the most common alternatives which can be found.

In Chapter 4 which follows, we begin discussion of specific rate structures in the project study area.

CHAPTER 4

Class Rate Investigation

As was discussed in Chapter 1, certain hypotheses are made in this study about regional motor carrier rates. These hypotheses were drawn from allegations and remarks made by interested parties in discussions of the necessity for the work. Hypotheses provide a useful tool because they allow the data to be presented as a test of a clearly stated proposition or position.

The Introductory Hypotheses

Three hypotheses regarding interstate common carrier motor freight class rates into and within the project study area are considered in the discussion which follows in this chapter and in Chapter 5.

1. Through rates are published only to a limited number of rate groups; many small points are not covered by these rate groups.

2. Arbitrary rates and/or combinations of local rates must be used to reach many points not covered in rate groups.

3. Generally, there is no continuous, uniform relationship between mileage and the subject freight rates as described above; in some cases rates may be higher for shorter than for longer distances in the same direction or even over the same route.

A discussion of each of these hypotheses follows. Subsequently, in Chapter 5, data are presented relative to each state in the project study area. Each state displays its own peculiarities. Therefore, all three hypotheses are discussed collectively for each state. Since the states are treated in alphabetical order, the material about Colorado is slightly more explanatory than the subsequent discussions.

Through Rates and Rate Groups

This section expands upon the first hypothesis above, which is restated for uniformity of discussion:

1. Through rates are published to a limited number of rate groups; many small points are not covered by these rate groups.

Clarification of hypothesis. Essentially, a rate group is a relatively small geographical region containing several cities or towns. The rate to these towns from some reasonably distant external point is exactly the same even though the total mileage from the distant point to

each town is different. This is done in order to simplify rate publication and is possible because of the "tapering principle" of freight rates discussed previously.

As specifically defined in Chapter 3, a "through" rate is a single factor rate. It may apply over the lines of one carrier or be published by two or more carriers who are forming a combined haul. Because of the tapering principle, through rates tend to be lower per mile than combinations of local rates which are an alternative.

Part I of the Interstate Commerce Act makes it mandatory for railroads to join together establishing routes over which through (single factor) rates apply. The carriers share in this rate through "division of revenue" agreements which prorate the revenue among them on a mileage or other basis.

Part II of the Interstate Commerce Act makes it permissible for motor carriers of property to establish routes over which through rates apply if they wish to. However, carriers who might participate in such arrangements are often not satisfied with the division of revenue accorded them in the proration agreement. Thus, motor carriers (often small short-line carriers) are frequently reluctant to participate in through rates or seek to abandon those which have been established.

If this first hypothesis is true, we expect to find that to many towns there is no single factor through rate published from points in other states; to these towns (hereafter referred to as non-rate-group points) it is then necessary to construct a through rate by adding together some combination of rates.

If this hypothesis is false, we expect to find that particular states are blanketed with rate groups so that to every town there is published a single factor through rate from points in certain other states.

Result. Generally, the data subsequently presented indicate that this first hypothesis is true as far as tariffs of the Rocky Mountain Motor Tariff Bureau are concerned, but not so true of the tariffs of the Middlewest Motor Freight Bureau nor perhaps the Pacific Inland Tariff Bureau.

Method. To investigate this hypothesis, 27 "rate group" maps were prepared. For each state three External Competitive Points were selected (selection of lists of such points was discussed in Chapter 1). These were used as origins for the rates into each state. Selections were loosely stratified by seeking a reasonably important potential origin from three different directions into each state. Selection of origins was not related to traffic data (which is largely non-existent) beyond the basic knowledge which the consultants have about the nature of the industry. Some of the origins are undoubtedly less important as traffic generators than others, but the overall effect was one of representing as many variables of traffic combinations as possible within a

reasonably economical sample. The organization of the rate group maps within the appendices to this report is explained subsequently.

Rates to Non-rate-group Points

The second of our hypotheses is restated for purposes of discussion and clarification:

2. Arbitrary rates and/or combinations of local rates must be used to reach many points not covered in rate groups.

Clarification of hypothesis. To the uninitiated it might seem that the simplest method of rate publication would be to publish a rate from each town to every other town. In practice, however, this is very complex, and some simplification is sought because (1) it is simpler to publish one rate which applies to several towns, (2) due to the tapering principle, discussed earlier, costs tend to blanket over a destination area, and (3) some towns do not have a large enough traffic to justify the effort of publishing a rate. Rate groups, therefore, are an effort at tariff simplification.

If the first hypothesis, as above, is true, however, many towns are not covered by rate groups. What, then, are the alternatives for publishing rates to towns which are not covered by rate groups? Four alternatives are considered:

1. Make a rate by intermediate application. That is, when a town is located between two rate groups, apply the rate applicable to the next rate group beyond the town you are rating.

2. Find the rate to the nearest rate group city where carriers interchange traffic and then add the local published tariff rate (often over a small local carrier) from the interchange point to the desired destination.

3. Find the rate to an interchange point as above, and then add an "arbitrary" rate to cover the movement from the interchange point to the desired destination.

4. Find the rate to an interchange point as above, and then add a mileage rate (a tariff rate published on the basis of a certain number of cents per hundred pounds per mile) applicable to the number of miles from interchange to destination.

If the second hypothesis is true, we expect to find that of the above, arbitraries and combinations of local rates are the most commonly used means of determining the additional rate to be assessed beyond a rate group to reach a non-rate-group point.

Method. To investigate this hypothesis, a list of several non-rate-group towns was selected from the three rate-group maps for each state. The rates with appropriate notations and tariff references were then determined to the subject points. These are presented in alphabetical

order in a table in each state data set. These tables follow the rate group maps in each set and are titled "Class 100 LTL Rates from (origin) to typical non-rate-group points in the State of (state)."

Result. Generally, the data subsequently presented again indicate that the second hypothesis is true. Arbitraries, in particular, are extensively used to construct rates to non-rate-group points in the project study area. This is not to say that they are properly utilized, however. In evaluating the data, reference should be made to whether or to what extent the other alternatives discussed above are utilized. Therefore, discussion of them follows.

1. Intermediate application: A logical method of determining a rate to a point for which there is no published rate in a tariff is through the process of intermediate application. This is widely used in railroad rate publication because of the "long and short haul clause" which appears in Section 4 of Part I of the Interstate Commerce Act. The basic provision of this clause reads as follows:

> (1) It shall be unlawful for any common carrier subject to this part or Part III to charge or receive any greater compensation in the aggregate for the transportation of passengers, or of like kind of property, for a shorter than for a longer distance over the same line or route in the same direction, the shorter being included within the longer distance, or to charge any greater compensation as a through rate than the aggregate of the intermediate rates subject to the provisions of this part or Part III, but this shall not be construed as authorizing any common carrier within the terms of this part or Part III to charge or receive as great compensation for a shorter as for a longer distance:

A noted authority on freight rates defines the principle of intermediate application, as follows:[1]

> An intermediate rate is a rate from or to an unnamed intermediate point in a tariff, which is made by operation of the intermediate rule in the tariff. Its primary purpose is to provide for rates on shipments in harmony with the fourth section of the Interstate Commerce Act. In addition, intermediate rules are permitted to save carriers the expense of publishing specific rates from or to intermediate points. The rules are published voluntarily by the carriers, and they may restrict them if they deem it advisable. The restriction, however, must be clear and definite.
>
> A rate made by intermediate application has the same legal standing as a specific rate, notwithstanding its manner of creation. In this connection, the Commission in the case

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[1]William J. Knorst, Transportation and Traffic Management (Chicago: College of Advanced Traffic, 1948) Vol. 2, page 526.

of Butler Bros. v. Baltimore & Ohio R. Co., 231, ICC 618, 622, held:

> "An intermediate provision in a tariff establishes specific rates just as positively, plainly, and legally as if the rate on the commodity shipped had been specifically provided to the point of destination."

The intermediate rule must be construed in the light of all pertinent provisions contained in the tariff. It may not be used to broaden the scope of the tariff where the origin and destination territories are clearly defined, and by its terms applies only in the absence of a specific rate. This was definitely affirmed by the Commission in England, Walton & Co., Inc., v. Pennsylvania R. Co., 190 ICC 141, wherein it held:

> "The specific rates so take precedence whether in the same or different tariffs, or whether the specific rate is published to become effective before or after the effective data of the rate under the intermediate rule."

In line with the above citation, practically all intermediate rules contain exceptions that if there are rates elsewhere published to the intermediate points, the rule will not operate to set such rates aside.

The gentleman is, of course, speaking of rail rates. However, it may be seen that this is a useful method of making sure that a near point is not charged more than one further distant.

There is no long and short haul provision in Part II of the Interstate Commerce Act which applies to motor carriers. Therefore, interstate trucklines are not unduly concerned about charging more for a short haul than a long haul. Intermediate application remains, however, a method by which motor carriers could "save...the expense of publishing specific rates from or to intermediate points."

Generally, the motor freight carriers in the project study area do not make extensive use of the principle of intermediate application. The tariffs to which we referred in the construction of the rate-group maps make provision for intermediate application and each carries a rule concerning it. These rules appear as Exhibits 4.1 through 4.11 of Appendix 4. However, many of these rules carry so many restrictions and exceptions that the geographical area covered by intermediate application is very small.

Attention is directed to the tariff pages shown in Appendix 4. Examination will show that the intermediate application rules shown there are hedged with many geographic restrictions. In addition, other restrictions are common. For instance, in Tariffs RMB 301, RMB 302, RMB 303, RMB 304A, RMB 319A, and RMB 521 intermediate application cannot

be used for shipments of under 500 pounds weight. In Tariffs RMB 330A and RMB 334A the restriction is 1000 pounds.

Attention is especially directed to the pages from the Middlewest Motor Freight Bureau tariffs. Items 281 of Tariffs MWB 501 and MWB 502A and Item 148 of Tariff MWB 540 present what are, apparently, completely unrestricted intermediate application rules. Thus, in the portion of the project study area represented by the following rate group maps--Colorado from Minneapolis origin, Nebraska from Chicago and Dallas origins, New Mexico from Kansas City, North Dakota from Denver and Minneapolis origins, and South Dakota from Kansas City and Minneapolis origins--intermediate application would be widely utilized.

Intermediate application is by no means an automatic method of making rates to unnamed points. A carrier must be available who has the operating rights to serve the unnamed point as well as the named point beyond for which a rate is published.

2. Combination of local rates: One of the deficiencies of intermediate application as discussed above is that, although it effectively creates a "through" single-factor rate to every point, this rate is dominated by the long-haul carrier. A transcontinental truck line, for instance, may take a shipment to an interchange point near final destination where it is transferred to a short-line carrier for ultimate delivery. This carrier is expected to accept a share of the through rate based on percentage of mileage hauled or other form of proration. However, since this is a long-haul through rate, the tapering principle has already had its effect and the resulting rate per mile may not be adequate to amortize the terminal costs of the short-line carrier. The short-line carrier, therefore, may refuse to accept a portion of the through rate and may demand his full "local" rate from the interchange point to destination.

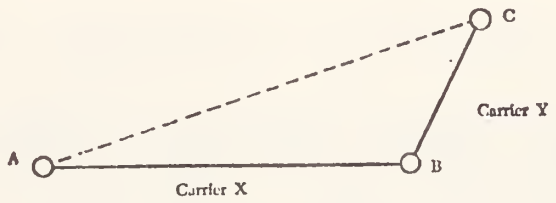
The local rate of the short-line carrier will be determined from the freight rate tariff for his locality which he either publishes himself or participates in when it is published by somebody else. A difficulty in this situation is that small regional or subregional carriers in sparsely settled areas are not massive business enterprises. They are seldom equipped to publish a complete freight tariff, negotiate many different rates to put into it, determine cost factors behind each rate, and keep the tariff up to date. Therefore, it is often more convenient to publish rates for the short delivery portion of a long haul by means of arbitrary rates discussed subsequently. However, numerous cases of rate construction by means of combinations of local rates will be seen in the data sets for the project study area states.

3. Arbitrary rates: The establishment of freight rates is generally supposed to be based upon economic factors, the ultimate of which are the cost to the carrier for providing the service and the need or demand of the customer to have it. The major rate theory behind arbitrary rates, however, is summed up in their name--they are established arbitrarily. Economic factors may be considered in their establishment

but probably only in an intuitive way. Arbitrary rates may be fixed in amount regardless of classification of the freight or weight of shipment, or they may increase or decrease with the class of freight or weight bracket as with regular class rates. The "arbitrary" rate factor cannot be used as a local rate from and to the points it applies to but only when added to another factor to make a through rate from origin to final destination.

A well known authority on traffic management discusses arbitrary rates as follows: [2]

> The term "arbitrary" is generally used to name the fixed amount which must be added to the rate at a base point in order to arrive at charges to another destination.



> For example, instead of publishing a joint through rate between A and C, the rate from A to B is applied plus a fixed amount from B to C.
>
> Simplification in rate publishing is one of the reasons for adopting a rate structure using arbitraries. A good example can be found in the publication of motor carrier rates from the East to the Northwestern states. Instead of publishing rates from the East to all points served by motor carrier in the Northwest, local and joint rates are published only to large terminal points such as Spokane, Seattle and Portland. Arbitrary rates are then published to cover the movement from these terminal points to destinations beyond.
>
> Another reason for the use of arbitraries is to give additional revenue to short-line carriers that would not get sufficient revenue by the ordinary methods used to determine division of joint rates. For example, instead of publishing a joint one-factor rate of $1.10 from A to C (in the foregoing diagram), the local rate from A to B of $1.00 will be made applicable on the shipment from A to C plus an arbitrary of 35 cents from B to C. This allows the short-haul carrier to receive more revenue than

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[2]Kenneth U. Flood, Traffic Management (Dubuque: Wm. C. Brown Co., 1963) pages 159 and 160.

> it would be entitled to if a joint rate were published. The I.C.C. has never favored this method of making rates, stating that such rates put the territory local to the short or weak line at serious disadvantage and tend to hamper its development. This method also runs counter to the theory that the financial necessities of weak lines in such cases should be met by a liberal division of the joint rate.[38]
>
> The term "arbitrary" is also used to express a situation in which there is a deviation from the normal basis of the class-rate scale. Topographical differences, traffic congestion causing abnormal expense and delay, back-hauls, and other factors cause the carriers to publish a higher scale of rates to and from these points than they normally would. The word "arbitrary" is used to express this type of situation even though the increase is included in the published local or one-factor joint rate, no separate arbitrary rate being established.

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[38] Southern Class Rate Investigation, 100 ICC 513, 653 (1925).

Arbitrary rates are used extensively by the motor freight carriers in the project study area. The specific applications, however, vary from state to state. These idiosyncrasies are pointed out, as thoroughly as possible, in the discussion of Hypothesis 2 in each of the state data set examinations. Two peculiarities in the way which arbitraries apply stand out and deserve mention in this general discussion.

The first is that the arbitrary rate between an interchange point and a final destination is almost always different when one approaches from a different distant origin regardless of the fact that the physical journey from the interchange point to the destination is exactly the same in each case.

For instance, the total Class 100 LTL rate from Los Angeles, California, to Allenmine, Colorado, is 1443 cents per 100 pounds. This is rated over Trinidad, Colorado (as shown on Map C.3 in Appendix 5). The rate is made up of: Los Angeles to Trinidad 1306 plus an arbitrary of 137 from Trinidad to Allenmine, total 1443.

The rate from Dallas, Texas, to Allenmine is 936 cents per 100 pounds made up as follows: Dallas to Trinidad 768 plus an arbitrary of 168 from Trinidad to Allenmine.

Similar situations exist throughout the project study area. Another example is shown in the table which follows presenting differing arbitraries applicable to the potash mines in southeastern New Mexico. In each case the shipment must be rated first to Carlsbad in the particular tariff shown; it is then assessed the additional rate shown to take it from Carlsbad to the potash mines.

Arbitrary Rates Applying from Carlsbad, N.M.
to Potash Mines
on Traffic Originating in Territory Shown
in Cents per 100 Pounds

Weight Bracket	Arizona-California Item 1430 Tariff RMB 301	Middlewest Territory Item 264 Tariff MWB 215#	Pacific Northwest Item 6900 Tariff RMB 127
LTL	52	47	51
1,000#	52	47	46
2,000#	57	47	44
5,000#	54	45	42
10,000#	33	28	23

The other peculiarity in the way in which arbitraries are being used is that frequently an arbitrary will be imposed on top of a group rate. This situation is particularly observable in Colorado. For instance, from Los Angeles, California, Colorado Springs is shown as being in its own rate group taking a through rate of 1306 cents per 100 pounds. (See Map C.3, Appendix 5). In practice, however, motor freight patrons are assessed a rate of 1306 plus an arbitrary of 48 cents per 100 pounds to cover the service of breaking bulk at Denver and delivering the freight from there. This occurs even though the carrier passes through Colorado Springs on his way to Denver. This point will be discussed again later but deserves general mention here.

Again, attention must be directed to the differing situation in the Middlewest Motor Freight Bureau tariffs. (Maps Neb.1, Neb.2, SD.2 and SD.3 in Appendix 5). Because of the use of intermediate application, as discussed previously, there is substantially less utilization of arbitraries in Nebraska and eastern South Dakota.

4. Mileage rates: In sparsely populated areas, publication of rates from interchange points to outlying areas is accomplished by using mileage rates. This can be necessary in cases where delivery is made to a farm, mine, or other rural industrial site where even an unincorporated community does not exist. In such cases beyond rates are published at so much a mile; usually in mileage blocks of 5 miles, 10 miles, 20 miles with the rate per mile decreasing as total mileage increases. A simplified example of mileage rates appears in Items 281 of Middlewest Motor Freight Bureau Tariffs 501A and 502A which appear as Exhibits 4.8 and 4.9 in Appendix 4.

Mileage rates are used to some extent in the project study area to construct rates beyond final interchange points. This is particularly true in extremely sparsely settled areas such as in Montana.

Rate to Mileage Relationships

The third hypothesis is restated for discussion as follows:

3. Generally, there is no continuous, uniform relationship between mileage and the subject freight rates as described above; in some cases rates may be higher for shorter than for longer distances in the same direction or even over the same route.

Clarification of Hypothesis

This hypothesis may seem to carry the implication that there is a necessary relationship between rates and mileage or that the relationship should progress at a uniform rate. There are, of course, two sides to the question. The situation is expressed in a reasonably objective statement from the Freight Traffic Redbook: [3]

> The distance of the haul is one of the important factors in constructing a rate. It costs more to carry goods a longer than a shorter distance, especially over the same route. Each additional mile involves an additional service. While the total rate increases with distance, the average rate per ton-mile decreases as the distance increases. It does not cost twice as much to haul freight 200 miles as it costs for a haul of 100 miles. The unit cost decreases as the distance increases. The expenses at terminals are not affected by the distance freight is hauled. They remain the same whether the haul is 200 or 100 miles, and this is practically true with respect to all other expenses, except, of course, the actual distance hauling expenses. When both the terminal and hauling expenses are considered, the cost per ton-mile is greater for shorter than for longer hauls. . . .
>
> While distance of haul has always been an important factor in the past, it is more so today, and mileage scales have developed to a point where distance is the major controlling factor for rates in the territories east of the Rocky Mountains. First class rates have been put on mileage basis, and immediately followed by applying same to commodity rates. Many factors of major importance in the past, such as market conditions, etc., have been relegated as minor factors in arriving at freight rates.

Again, of course, the author we have quoted is speaking of rail rates, but his words emphasize the importance of distance as a rate-making factor and the appropriateness of collecting data on this subject.

If the third hypothesis is true, we expect to find that the rate per mile from a certain destination to selected points in each state will vary widely. We expect that a reasonably large number of cases will arise where rates per mile are more for longer than for shorter distances.

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[3] Charles J. Fagg and Walter W. Weller, Freight Traffic Redbook (New York: Traffic Publishing Company, Inc., 1955), p. 34.

If the hypothesis is false, we expect the rate per mile from a certain origin will be reasonably uniform to all (selected) points in a state. The tapering principle will cause rate per mile to decrease slightly as distance increases.

Method. The investigation of this hypothesis was done through the construction of three additional exhibits for each state. These are found in the data sets presented in Appendix 5 following the rate group maps for each state. They consist of (1) an alphabetical list of selected points in the state with rates and mileage from a major market origin, (2) the same list arranged in order of mileage (not route order), and (3) a graph relating miles to rates.

Result. In the case of the third hypothesis, as with the others, the data sets subsequently presented indicate that the hypothesis is generally true. Very few cases of smooth rate/mile progression are seen and the situation may be described as somewhat "spotty."

Data Sets to Follow

This chapter has discussed the first three simple hypotheses we have set up, and has previewed the general results derived from the data in respect to each of these. The data sets for each state in the project study area are discussed in Chapter 5, which follows.

CHAPTER 5

Discussion of Data Sets

The purpose of this chapter is to discuss data which supports the general findings set forth in Chapter 4. Three simple hypotheses were presented and reported as being mainly true.

Attention is now directed to the data sets which appear in alphabetical order by states in Appendix 5. For each state the data set consists of the following:

(a) "Rate-group" maps from three important origins. These were selected from the "external competitive points" discussed in Chapter 1. One objective of this was to obtain representative rate samples from three different directions.

(b) A table of rates from a selected origin to typical non-rate-group points (except in Nebraska).

(c) A table of points in alphabetical order showing mileage and rates from a selected origin.

(d) A table of points in order of distance from a selected origin showing mileage, rates, and rate in cents per mile per hundred pounds.

The data sets are discussed in alphabetical order of states.

These data represent a huge number of variables, and each state displays different idiosyncrasies. The discussion, therefore, highlights important sample situations. The discerning reader can, no doubt, amplify these manyfold.

Colorado

The Colorado data set is the first appearing in Appendix 5. It consists of Maps C.1, C.2, C.3, Table C.1, Table C.2, and Table C.3.

Through-Rate and Rate-Group Situation

Hypothesis 1 in Chapter 4 postulated a limited number of rate groups. Maps C.1, C.2, and C.3 indicate that this hypothesis is indeed true in the case of Colorado. The through rates from Dallas, Los Angeles and Minneapolis are shown on these maps as falling into a number of small groups around reasonably important points. These are indicated on the maps as encircled areas. The applicable freight rate from the subject origin of each map is shown in the center of the encircled area.

Wide expanses of the state are outside of or in between encircled areas. To towns located in these wide expanses it is necessary to "build" a rate which will be greater than the rates to nearby rate groups. Visual examination of these maps makes apparent certain patterns and idiosyncrasies of the freight rate structure.

Rates from Dallas. Attention is directed to Map C.1 showing Class 100 LTL rates from Dallas to Colorado points. These rates are published in a tariff of the Rocky Mountain Motor Tariff Bureau. Samples of interesting observations are itemized; others will be obvious to the reader.

Item: In the southeast corner of Map C.1 a group rated at 822 cents per hundred pounds lies closer to Dallas than one rated 753 which is located just north of it.

Item: In the southwestern portion of the map a group starting in the vicinity of Alamosa is rated 1175. Beyond it and farther from Dallas are two lower rated groups. One centers on Salida and is rated 1098. One centers on Grand Junction and is rated 1150.

Item: Castle Rock is south of Denver and is, therefore, closer to Dallas. Denver is rated 888. Castle Rock, however, is in the Boulder group, which is rated 912. (Castle Rock is also subject to an additional arbitrary charge discussed subsequently.)

Item: Note that the rate groups on this map tend to be arranged narrowly along major highways.

Rates from Los Angeles. Attention is now directed to Map C.2 which shows rates from the Los Angeles origin which are also from a Rocky Mountain Motor Bureau tariff. Observations again are itemized.

Item: Fewer inconsistencies in the relation of rates to distance are noted in this map. Assuming that carriers enter the state in the vicinity of Grand Junction, the rates "fan out" in reasonably logical fashion across the state.

Item: The rate groups on this map are not stretched out along the highway to the same extent as those on Map C.1.

Item: The operation of the tapering principle is suggested by the band of rate groups carrying a rate of 1306 which stretches north and south along the eastern side of the Rocky Mountains. At a distance of over 1000 miles from Los Angeles it might appear that start-up costs have been amortized sufficiently to allow this averaging of rates at the 1306 level. This may be true of start-up costs but the rate groups shown at the 1306 level are misleading because they do not show the delivery cost which is assessed in addition to the 1306 rate in most cases either over Denver or over Pueblo. (This is discussed subsequently.)

Rates from Minneapolis. Attention is directed to Map C.3 showing rates from the Minneapolis origin. Rates from Minneapolis to the western

part of the state are found in a tariff of the Rocky Mountain Motor Bureau. Rates from Minneapolis to the eastern half of Colorado are found in a tariff of the Middlewest Motor Freight Bureau. Some observations are itemized.

Item: The rate groups in the eastern half of Map C.3 tend to be more elliptical and less linear than those of the western part of the map or of Maps C.1 and C.2. They are also slightly closer together. This indicates that this Middlewest Bureau tariff tends to publish single-factor through rates to more points than the subject Rocky Mountain Bureau tariffs. This tendency will subsequently be noted in other states.

Item: Many inconsistencies between rates and distance appear in Map C.3. Rates begin in the range of 1100 cents per hundred pounds at the eastern border of the state and progress to about 1300 cents at the Rocky Mountains. On the west side of the mountains they revert to the 1100 level and again progress to about 1300 cents at the western border. This situation is possibly related to the fact that the tariffs of two different bureaus apply to the two parts of the state from Middlewest origins such as Minneapolis.

From an examination of these maps one must conclude that single-factor through rates are published only to a limited amount of the geographical area and, therefore, to a limited number of points in Colorado. This means that there are large areas and many small towns between the rate groups to which rates must be made by one of the methods discussed under Hypothesis 2 in Chapter 4.

The Arbitrary Rate Situation

Attention is now directed to Table C.1 in the Colorado data set of Appendix 5. This table shows how rates are made to towns which are not included in single-factor through-rate groups as shown on Maps C.1, C.2., and C.3. These points were selected by visually examining the maps and picking outlying towns more or less evenly distributed around the state. Thus, the selection process was more or less random so long as all areas of the state were represented.

Because of the time and budget limitations requiring a sampling process, a major market origin was selected for each state. In the case of Colorado this origin was Los Angeles, California.

Selection of this origin in comparison to discussion which has preceded herein regarding the Dallas origin immediately makes obvious a difference in the applicable tariffs. This is that although a point may be in a rate group in one tariff, it is not necessarily in a rate group in all tariffs. Thus, we find Boulder listed as a non-rate-group point on Table C.1 where it was discussed as a rate-group point having its own single-factor through rate in reference to the Dallas origin on Map C.1.

Fifteen non-rate-group Colorado points are shown on Table C.1. The two central columns of the table show how the rate from Los Angeles

to these points is constructed. First the single-factor rate to the nearest rate group is determined and then another "local" rate is added to this to determine the total rate shown in the right-hand column. The third column shows the tariff reference for this "local" rate as well as the rate itself. Note that in the case of these 15 points, 6 are rated by means of variable arbitraries, one by a flat arbitrary, and 8 by a combination of local rates from a Colorado tariff (See Chapter 4 for discussion of these terms). In itself the method of determining the total rate in the right-hand column is not too meaningful unless the level of some part of the rate is inconsistent or inequitable.

For this reason the factor of mileage has been introduced in Table C.2. This table shows the total rate from Los Angeles to all of the representative points selected for Colorado as well as the non-rate-group points shown in Table C.1. (Representative points were selected and listed in Chapter 1 of this report.) Essentially this table is valuable only as an alphabetical consolidation of data although close study reveals several inconsistencies in the relation of distance to rates.

At this point, let us summarize the findings available in Tables C.1 and C.2 by saying they tend to prove Hypothesis 2 (See Chapter 4) which holds that arbitrary rates and combinations of local rates are widely used.

Special Colorado arbitrary situation. In connection with the use of arbitrary rates in Colorado, comment must be made of a peculiar way in which carriers are utilizing such rates.

Examination of Map C.2 showing the rate groups applicable from Los Angeles indicates that cities such as Colorado Springs, Fort Collins, Greeley and Sterling are in rate groups to each of which a single-factor through rate of 1306 is shown. Yet, to each of these points Table C.2 indicates that the total rate is 1354. This is because the carriers break bulk on full loads at points such as Denver and then assess an arbitrary rate above the so-called through rate for the delivery portion of the haul.

An inconsistency appears when the subject points themselves are used as basing points. For instance, Colorado Springs is in the Colorado Springs rate group which takes a 1306 rate out of Los Angeles. The actual rate to Colorado Springs is 1306 plus an arbitrary of 48 cents out of Denver for a total of 1354. However, note the rate from Los Angeles to Norad shown in Table C.1. This is constructed as 1306 from Los Angeles to Colorado Springs plus an arbitrary of 119 cents from Colorado Springs to Norad.

It must be remembered that the cases cited are only samples of this practice and that similar situations apply from other origins and in other parts of the state. There is also some evidence that the application of such arbitraries is somewhat capricious and inconsistent. For instance, there are some industrial sites between Denver and Golden to which an arbitrary over the through rate applies. Yet to Golden, which

lies just beyond these points, no arbitrary applies and the through rate is the same as to Denver.

Thus, we see that in Colorado, not only are arbitrary rates used extensively, but they are frequently used in what might be referred to as an unconventional manner. To some rate theorists it might seem illogical to publish a through rate to a point and then add to it an arbitrary from what is marketing-wise a competitive point.

Relationship of Rates to Mileage

Regardless of the way in which a rate is constructed mechanically, a more important factor is possibly whether it is consistent and logical in relation to the units of service produced. Table C.3 and its bar graph relate to this concept, although we do not pretend that mileage or distance alone is a complete indicator of the units of service produced. This table shows the same points, mileage and rates as Table C.2, but arranges them in ascending order of distance. The bar graph and the figures in the right hand column translate the relationship between miles and rates into a cents per mile per hundred pounds figure.

The mileage which was used in this table and similar tables for the other states was taken from the Household Goods Carriers Mileage Guide No. 10. The mileage shown might be defined as the highway "short-line" mileage between the points which are the subject of the tables. This is not necessarily mileage over the routes which the carriers are certificated to follow. However, there is a strong case for using this short-line mileage as shippers who use motor truck service undoubtedly could not understand the rationale of utilizing a longer route when a shorter one was available.

One would not expect the cents per mile figure to remain constant for all distances. The tapering principle would predict that the rate per mile for short distances would be higher than for long distances. This effect can be seen faintly in this table and graph. For instance, the rate to Towaoc which is 777 miles from Los Angeles is 1.86 cents per mile, while the rate to Sterling at 1183 miles is 1.14. Overall this table does not represent a uniform progression, however, and the total picture is one of great inconsistency.

We must conclude that in the case of Colorado the data indicate that the third hypothesis is true and that there is very little continuing, uniform relationship between mileage and freight rates.

Idaho

The Idaho data sets which appear next in Appendix 5 present rate-group maps with origins of Denver, Portland and Spokane. The Denver map is based upon tariffs of the Rocky Mountain Motor Tariff Bureau whereas the Portland and Spokane maps allow some comparison between Rocky Mountain Bureau and Pacific Inland Tariff Bureau tariffs.

Through-rate and Rate-group Situation

Maps I.1, I.2, and I.3 were prepared in the same manner as the Colorado maps described previously. All three of these maps again indicate that single-factor through rates are published only to a limited number of rate groups in the southern part of the state. Through-rate coverage is much greater in the northern part of the state where Pacific Inland tariffs apply from Portland and Spokane than in the south where tariffs of the Rocky Mountain Motor Tariff Bureau apply from all three origins. Comments now follow regarding each map.

Rates from Denver. Map I.1 indicates that although there are many individual rate groups applicable from Denver, the rates progress logically according to distance with some exception. This occurs in the vicinity of Boise where two groups taking a rate of 1154 cents and two groups taking a rate of 1272 cents are interposed before the 1152-cent groups in northern Idaho. This may be related to the non-rate-group situation which is discussed subsequently.

One notes the rather uniform coverage of the northern Idaho points by a rate of 1152 cents per hundred pounds from Denver.

Attention is also directed to the level of rates in the southeastern part of the state in the vicinity of Idaho Falls and Pocatello. These are subsequently compared to rates from Spokane and Portland.

Rates from Portland and Spokane. Maps I.2 and I.3 present the rates from Portland and Spokane. The Pacific Inland tariffs applying to the northern part of the state seem to provide a thorough coverage of single-factor through rates to a large number of specific points. The mileage progression appears, from visual examination, to be reasonable.

In the southern part of the state, where tariffs of the Rocky Mountain Bureau apply, the rates are shown as being exactly the same from both Portland and Spokane although Spokane is considerably closer to the area. This, too, may be the result of a situation discussed in the next section which may relate to the historical development of the Idaho Highway system.

Comparison of the three Idaho maps reveals a near equality of rates from all three origins into the southeastern part of the state. For instance, the mileage/rate relationships to the town of Soda Springs are as follows:

	To SODA SPRINGS	
From	Approximate Mileage	Class 100 LTL Rate
Denver	500	926
Portland	730	945
Spokane	600	945

Nearby points have similar rate and mileage situations with the exception

of Pocatello and Idaho Falls, where some interesting market forces must have been at work. For example:

From	To IDAHO FALLS Approximate Mileage	Class 100 LTL Rate
Denver	600	960
Portland	700	861
Spokane	500	861

Thus, the indications of the data in the Idaho rate-group maps are that single-factor through rates are published to a limited number of points in the southern part of the state, but with a reasonably complete coverage of points in the northern part of the state.

The Arbitrary Rate Situation

As in other project study area states, rates to outlying non-rate-group points in Idaho must be constructed through the use of arbitraries and combinations of local rates. Because of fewer settlements, the situation is not as widespread as in Colorado. The non-rate group picture is dominated, however, by a peculiar situation affecting some mid-state points. Therefore, Table I.1 is devoted entirely to a treatment of these points.

For many years, the economies of the northern and southern parts of the State of Idaho were effectively separated by the Clearwater Mountains and the Salmon River Mountains. Physical communication between the north and the south was over the highways of the State of Washington and early truck lines followed routes through that state. Some modern operations follow similar procedures which affect points located on Highway 95 between New Meadows and Lewiston.

Table I-1 shows the rates to some of these towns from Denver. Attention is directed to the fact that these rates are made over Lewiston plus a local rate from an Intermountain Tariff Bureau tariff. This, despite the fact that the points are south of Lewiston. The result is that the rates from Denver decrease as the mileage increases. For illustration, certain rates from Table I.1 are excerpted here:

Point	Mileage from Denver	Class 100 LTL Rate
Pollock	962	1491
Riggins	970	1491
Grangeville	1022	1391
Cottonwood	1037	1375
Kamish	1049	1382
Craigmont	1053	1358
Spalding	1073	1308

This may raise a question of whether carriers should be required or allowed to go the long way around to reach these points when a shorter route is available.

Relationship of Rates to Mileage

Tables I.2 and I.3 develop the relationship of rates to mileage for Idaho. Table I.3 arranges the representative points (from Chapter 1) and the non-rate-group points in ascending order of distance from Denver. With the exception of the discontinuities introduced by the points on Highway 95 discussed in the previous section, the rate/mileage progression is reasonably smooth. The working of the tapering principle is obvious. When the Highway 95 related points are eliminated from the table, the mileage/rate progression from Denver, as expressed in cents per hundred pounds per mile, is as follows:

Point	Miles from Denver	Cents per Mile
Idaho Falls	597	1.61
Pocatello	598	1.55
Blackfoot	617	1.56
Burley	648	1.55
Twin Falls	688	1.46
Boise	811	1.32
Nampa	831	1.35
Wallace	1031	1.12
Coeur d'Alene	1058	1.09
Lewiston	1085	1.06

This evidence demonstrates a continuing and uniform relationship between rates and mileage and tends to disprove Hypothesis 3 (See Chapter 4).

Montana

The third data set in our series presented in Appendix 5 is that for Montana. It consists of rate-group maps M.1, M.2, M.3 and Tables M.1, M.2, and M.3. As cited on the individual maps, Rocky Mountain Motor Tariff Bureau tariffs apply to this geographical area.

Through-Rate and Rate-Group Situation

The Montana rate-group maps bear out the contention of Hypothesis 1 that rates are published to a limited number of groups. The rate groups in Montana are widely spaced with vast expanses of the state between them. The population of the non-rate-group areas is extremely sparse.

Rates from Bismarck. Attention is directed to Map M.1 which shows the Class 100 LTL rates from Bismarck, North Dakota, to Montana rate groups. Although these rate groups do not cover, altogether, a large area of the state, the rate progression is reasonably consistent. Two items are noted.

Item: The rate group in the vicinity of Miles City carries a rate of 664 cents per hundred pounds. The adjacent group near Forsyth carries a rate of 1017. This is a relatively large increase as between contiguous rate groups.

Item: The rates progress to a level of 1234 cents at the Western extreme of the state. However, in the south central border at Emigrant and Gardiner, there is a group carrying a rate of 1238 with lower rated groups to the west of it.

Rates from Denver. Special attention is directed to Map M.2 showing rates from Denver as Denver was chosen as the major market origin for subsequent analyses.

Item: Note inconsistency of rate progression in the southeast corner of the state with intermixing of higher- and lower-rated groups.

Item: Attention is directed, for later reference, to the highest rate in the northeast portion of the state, being 1315 cents at Glasgow. Note should be taken that Scobey and Plentywood are not in a rate group.

Rates from Spokane. Map M.3 presents rate groups and rates between Spokane and Montana points. Rate progression is reasonably consistent with the possible exception of the groups in the vicinity of Dillon and Virginia City (southwest portion). Groups are elongated along major highways.

The Arbitrary Rate Situation

Attention is now directed to Table M.1 in Appendix 5 which shows how rates to non-rate-group points in Montana are made up. Again the towns shown are but a sample of points around the state which are not in groups taking single-factor through rates from Denver.

Eleven non-rate-group Montana points are shown in Table M.1. The combination rates shown are typical of those sampled throughout the study. The points of Froid, Medicine Lake, Plentywood and Scobey are of special interest because of the relatively high total rates shown (2029 cents per hundred pounds). This is because they are served out of Williston, North Dakota, and the rate breaks over this point. Reference to mileage figures on Table M.2, however, shows that these towns are about the same distance from Denver as Glasgow, which takes a rate of 1315 cents.

Relationship of Rates to Mileage

Table M.3 presents the Montana representative points (Chapter 1) and the Montana non-rate-group points in ascending order of distance from Denver. Very much like the Idaho table (Table I.3), it reveals the working of the tapering principle except when one of the abnormally high-rated points mentioned above intervenes in the series.

It should be noted that the construction of rates through the use of arbitraries or combinations of locals does not necessarily interrupt the tapering of the rates unless a significantly high rate results from the combination.

This table again both confirms and refutes the position of Hypothesis 3 regarding continuing and uniform rate/mileage relationships.

Nebraska

Maps Neb.1, Neb.2, and Neb.3 present rates from the origins of Chicago, Dallas, and Salt Lake City, respectively. The rates from Chicago and Dallas are found in tariffs of the Middlewest Motor Freight Bureau as cited on the maps; the rates from Los Angeles are from Rocky Mountain Motor Bureau tariffs.

Through-rate and Rate-group Situation

The maps for Nebraska present a remarkably different situation from those from other states which have been reviewed so far. Some comments are made about each map.

Rates from Chicago. Examination of Map Neb.1 reveals that all of the rate groups from Chicago are contiguous. There are no non-rate group points on the map. This indicates that, in effect, single-factor through rates are published from Chicago to all points in Nebraska. There are many points in the state which are not listed in the pertinent tariff. Rates to these towns would be made by intermediate application (see discussion in Chapter 4 and Exhibit 4.11 in Appendix 4, which is Item 148 of Middlewest Tariff 40-D). This situation, of course, completely refutes Hypothesis 1 as set forth in Chapter 4.

Rates from Dallas. Reference to Map Neb.2 shows that a very similar situation applies from the Dallas origin.

Rates from Salt Lake City. The rates and rate groups shown on Map Neb.3 are, as stated, from a Rocky Mountain Motor Bureau tariff but present a picture very different from other Rocky Mountain tariffs examined. Only seven rate groups are indicated for the entire state, and four of these are contiguous. One huge rate group covers the whole central part of the state. Again, points are frequently not listed, but the intermediate application rule of the tariff (See Exhibit 4.7 of Appendix 4, which is Item 577 of Rocky Mountain Motor Tariff Bureau Tariff 521, formerly 21-C) makes these points ratable in the rate groups shown (provided carrier route structure allows it).

We must conclude from this data that in reference to the State of Nebraska Hypothesis 1 is false and that single-factor through rates do, in fact, apply to virtually all points.

The Arbitrary Situation

For Nebraska, no table of rates to typical non-rate-group points has been included because there are, essentially, no such points. The wide coverage of rate groups and utilization of the intermediate application principle has made the excessive use of arbitrary rates a moot case in Nebraska. This possibly demonstrates that the same result could be achieved elsewhere as well.

Relationship of Rates to Mileage

Because of the absence of the table of non-rate-group points, Tables Neb.1 and Neb.2 depict the alphabetical and distance arrangements

only for the representative points for Nebraska (see Chapter 1). The bar chart in Table Neb.2 shows a very orderly progression of rates by mileage and a moderate working of the tapering principle.

For the State of Nebraska, we must gather that the data indicate that all three Hypotheses set forth in Chapter 4 are essentially false.

New Mexico

Each of the data sets examined so far has displayed certain unique qualities. The maps, numbered NM.1, NM.2, and NM.3, and accompanying tables illustrate certain characteristics peculiar to New Mexico. The origins utilized were Casper, Wyoming, from which a Rocky Mountain Bureau tariff applies as cited; Kansas City, from which a Middlewest Bureau tariff applies; and Phoenix, Arizona, again covered by a Rocky Mountain tariff. Tariff numbers are referenced on the maps in Appendix 5.

Through-rate and Rate-group Situation

Examination of the New Mexico maps in Appendix 5 bears out the contention of Hypothesis 1 that single-factor through rates are published only to a limited number of rate groups. Study of the situation reveals, however, that few arbitrary rates are used to reach non-rate-group points. This differs somewhat in the case of each origin considered.

Rates from Casper. Map NM.1 displays a large number of fairly widely separated rate groups. These groups mostly have a linear shape along the highways. There are, however, very few points in between the rate groups, and the rate groups pretty well cover important towns in the state. To unnamed points, rates may be made quite extensively by intermediate application. However, as in most Rocky Mountain Bureau tariffs, intermediate application applies only to shipments of over 500 pounds or which are rated over 500 pounds. See Exhibit 4.4 of Appendix 4, which is Item 577 of Rocky Mountain Bureau Tariff 319A.

Rates from Casper progress in reasonably logical order in reference to distance. However, it will be noted that the Cimarron group rated at 1134 intervenes between the Raton and Las Vegas groups, which are rated 1015.

Rates from Kansas City. Map NM.2 shows rate groups applicable from Kansas City. They are somewhat "fatter" than the groups on Map NM.1 and leave some area uncovered. Since this is a Middlewest Motor Freight Bureau tariff, however, intermediate application carries no weight restriction and rates may be made to all unnamed points if the appropriate carrier goes there.

Rate/mileage relationships from Kansas City are again logical. Rates in the northwestern corner of the state may seem relatively high. Carriers, however, enter the state from the northeast and proceed in a northwesterly direction to subject area.

Rates from Phoenix. Rates from the Phoenix origin are shown on Map NM.3 and are taken from a Rocky Mountain Motor Bureau tariff. This tariff displays certain differences from some other Rocky Mountain Bureau tariffs. This may be due to the fact that it was originally designed by the Interstate Freight Carriers Conference of Los Angeles, which was absorbed by the Rocky Mountain Bureau. The intermediate application rule in this tariff, as in other tariffs of the same bureau, applies only on shipments of over 500 pounds or which are rated at more than 500 pounds. The rule is, however, tied into the geographical list of points of the tariff (these pages are included in Exhibit 4.1 of Appendix 4). This list of points clearly establishes to what town any unnamed point is intermediate. Such geographic lists are uncommon in Rocky Mountain tariffs.

The rate progression from Phoenix, again, is logical except for fairly high rated points in the northwest part of the state. This is accounted for by the practice of the carriers' breaking bulk at Albuquerque and then, more or less, backhauling to this area. Of course, sparse population and rugged terrain also make delivery in this area expensive.

From an examination of the New Mexico maps one must conclude that single-factor through rates are published only to a limited number of rate groups, but that these cover a major portion of the economically important points in the state. This is borne out by the low number of arbitrary rates used.

The Arbitrary Rate Situation

Attention is directed to Table NM.1 in Appendix 5. Kansas City was selected as a major market origin. Whereas arbitraries are used in other project study area states (except Colorado) to make rates to towns not located in rate groups, they are used in New Mexico to make rates to places which are located in a rate group but in an outlying area or an area of difficult access. Also, many of the points affected by arbitraries are industrial sites. Seven points taking arbitraries are shown on the table; all are, in a sense, industrial in nature.

Thus, in New Mexico arbitraries are used somewhat differently than in other states reviewed so far, and, probably, in a justifiable way to cover cost situations.

Relationship of Rates to Mileage

Tables NM.2 and NM.3 of Appendix 5 establish the rate/mileage relationship for New Mexico. Examination of the bar graph shows a very smooth progression over distance except for seven points. Investigation reveals that these are the seven arbitrary points from Table NM.1. These are higher because they are rated to a basic rate group and then given an additional charge because of accessibility problems.

North Dakota

The map origins chosen for North Dakota are Denver, Great Falls, and Minneapolis. The rates from Denver and Minneapolis are found in Middlewest Motor Freight Bureau tariffs while those from Great Falls are found in a Rocky Mountain Bureau tariff as cited on the maps numbered ND.1, ND.2, and ND.3 in Appendix 5. Minneapolis was chosen as the major market origin for presentation in the tables of the data set.

Through-rate and Rate-group Situation

Maps ND.1 and ND.2 bear out the contention of Hypothesis 1 that through rates are published only to a limited number of rate groups. Map ND.3, however, displays a pattern very similar to some of the Nebraska maps where the state is blanketed with rate groups. As usual, the state has its own idiosyncrasies, however. A short comment is made about each map.

Rates from Denver. Map ND.1 displays a rate-group pattern which seems uncommon for Middlewest Bureau tariffs. As can be seen, there is a large number of very small rate groups. The progression of these also seems to indicate that the carriers enter the state in the southeast central portion, which is not the closest possible point of entry from Denver.

Rates from Great Falls. Map ND.2 displays a pattern typical of Rocky Mountain Bureau tariffs with the rate groups deployed along main highways. Basically, only two rates are shown: 1051 to points which are apparently easily accessible and 1089 to places more difficult to reach. The distance from Montana to North Dakota may be uncommonly short for the great degree of averaging (and no tapering effect) in the 1051 rate group which extends entirely across the state.

Rates from Minneapolis. Attention is directed to Map ND.3, which shows that the state is covered with contiguous rate groups similar to the situation previously described for Nebraska from Middlewest tariff origins. Here again, an idiosyncrasy appears, however, because to many outlying points within these rate groups arbitrary rates must be applied.

Thus, from these North Dakota maps our conclusion must be that Hypothesis 1 is neither fully proven nor not proved. Also, as will be seen, the arbitrary situation to non-rate-group points differs from what has been seen previously in this report.

The Arbitrary Rate Situation

Although the rate-group patterns in North Dakota differ substantially from each of the origins chosen, liberal intermediate application rules apply. In spite of this, many points require arbitrary charges over and above the amount assessed to the applicable rate group even when they are within the rate group. However, these are flat arbitraries of an amount which is the same in all cases. On the effective or cut-off date of this report, the standard arbitrary in the Rocky Mountain tariff

was 39 cents and in the Middlewest tariffs, 34 cents. It is almost a rule that if the carrier has a terminal at a point the so-called rate-group rate applies; but if the road driver must peddle the freight, the arbitrary is added. Because of this uniformity, only five non-rate-group points are illustrated on Table ND.1. There are many others in the state, but their situations would be very similar.

Thus, we see that North Dakota presents, again, a different situation insofar as rate groups and arbitraries are concerned and one which does not necessarily confirm the hypotheses stated in Chapter 4.

Relationship of Rates to Mileage

The rate/mile relationships from Minneapolis to North Dakota points are developed in Tables ND.2 and ND.3. Some tapering of the rate per mile is evident although it is slightly inconsistent. From this evidence one could not say that relationships are continuous or uniform. Also, at first blush, it would seem that the rate level may be higher than for states previously investigated. This subject will be investigated in a later chapter.

South Dakota

Examination of Maps SD.1, SD.2, and SD.3 covering the origins of Billings, Minneapolis, and Kansas City shows that the rate-group situation in South Dakota is very similar to that for North Dakota. Out of Minneapolis and Kansas City, where Middlewest tariffs apply, the rate groups tend to be contiguous, as they were observed to be in Nebraska. However, there are some gaps between them.

Out of Billings, where the Rocky Mountain Bureau applies, the groups again tend to be elongated along highways. Also note that again, similar to the Rocky Mountain Bureau rates applying to Nebraska and South Dakota, there are very few different rates--only three, in fact--covering the entire state. Across the southern part of the state, stretching approximately from Pine Ridge, is a long group taking a rate of 955 cents per hundred pounds. This linear averaging without tapering has been noted in previous data sets.

On the Kansas City and Minneapolis maps, the rate/mileage progression appears to be logical although there are several relatively low rated enclaves which are surrounded by higher rated territory. Note is taken of Milbank, Watertown, Brookings, and Sioux Falls in the eastern portion of the state.

The South Dakota maps show that rates are published to a number of different groups, but as in the case of North Dakota this is modified by what is apparently a reasonable arbitrary rate picture.

The Arbitrary Rate Situation

The tariffs from which the above rate-group maps were drawn contain liberal intermediate application rules so rates can easily be made to

unnamed points. However, many points are named as taking arbitrary rates even when located in a rate group. As in the case of North Dakota, the arbitrary is a uniform, flat rate arbitrary for all classes of freight and sizes of freight and sizes of shipment. On the effective date of September 1, 1974, this was 47 cents per hundred pounds in the Rocky Mountain tariff and 46 cents in the Middlewest Bureau tariffs. Thus, only six non-rate-group points have been chosen for analysis in Table SD.1.

Relationship of Rates to Mileage

The rate/mile relationships are developed for South Dakota on Tables SD.2 and SD.3. The points shown are those from Table SD.1 as well as the South Dakota representative points chosen in Chapter 1. Although the points requiring arbitrary rates always tend to be a little out of line, the tapering is reasonably constant. The level of rates per mile, however, is somewhat higher than that for North Dakota, which itself was noted to be possibly high.

All in all, South Dakota presents a very similar situation to both North Dakota and to Nebraska, and perhaps in some respects to New Mexico. These four data sets have elements which partially negate the propositions of the hypotheses in Chapter 4.

Utah

The accident of alphabetical arrangement has caused us just previously to examine in succession four states for which the data do not strongly support the hypotheses set forth in Chapter 4. With Utah, however, we have a state which substantiates all three of the propositions.

The Utah rate-group maps are numbered U.1, U.2, and U.3 in Appendix 5. The origins chosen are Albuquerque, San Francisco, and Spokane. San Francisco was selected as the major market origin for the comparisons in Tables U.1, U.2, and U.3.

Rates from Albuquerque. Attention is directed to Map U.1 which shows many small rate groups applicable from Albuquerque. Since there are only four rates applicable to all these groups, the groups have been coded. The groups are scattered along major highways. Illogically, the highest rated groups (1152 cents) are located in the southwest quadrant of the state although this part of the state is closer to Albuquerque than the far northern part of the state, to which the rate is 1111.

Rates from San Francisco. Map U.2 shows rate groups applying from San Francisco which are elongated along major highways similar to cases in some other Rocky Mountain Bureau tariffs. Again the southwest corner of the state has the highest rates although it is closer to San Francisco than points rated lower in the southeast portion. Also, the extensive rate averaging in the very long 1172 cent group stretching across the southwest corner is hard to justify.

Rates from Spokane. Map U.3 showing the Spokane origin presents very few rate groups. The major emphasis is upon the populous area

around Salt Lake City. Rate/mile progression is logical except now we find the rates to the southwest corner of the state are substantially lower than rates to the southeast. If there is logic to justify the opposite situation on the previous two maps, this would seem to refute such logic.

The Utah maps unquestionably substantiate Hypothesis 1 that through rates are published only to a limited number of groups and that many small points are not covered by these groups.

The Arbitrary Rate Situation

A selection of eleven so-called typical non-rate-group points is shown in Table U.1 in order to illustrate the arbitrary rate situation. As mentioned, San Francisco was selected as the major market origin.

Notice is called to the fact that Wendover is included as a non-rate-group point even though a through rate applies from San Francisco. This is because it is not included in any Utah rate groups but is covered by a tariff which deals mainly with Nevada.

Table U.1 indicates that of the non-rate-group points selected, none are covered by combinations of local rates. Seven are covered by variable arbitrary rates and three by fixed arbitrary rates. This situation is probably fairly typical of Utah non-rate-group points. Intermediate application of rates is limited to shipments of over 1000 pounds and is extremely restricted; this may be seen in page 103 of Item 577 of Tariff RMB 330A which appears as Exhibit 4.5 in Appendix 4.

The data from Utah also substantiate Hypothesis 2 that arbitraries are widely used.

Relationship of Rates to Mileage. Tables U.2 and U.3 develop the rate/mileage relationships for Utah. The points shown are the representative points for Utah selected in Chapter 1 plus the non-rate-group points from Table U.1. The bar graph in Table U.3 indicates that for the selected points in Utah there is certainly no continuous or uniform relationship between rates and mileage. There is not even any evidence of the tapering principle applying except in an extremely limited fashion.

Wyoming

The last data set appearing in Appendix 5 is that for Wyoming. Maps W.1, W.2, and W.3 present rate groups from the origins of Denver, Rapid City, and Salt Lake City. These rates are all found in tariffs of the Rocky Mountain Motor Tariff Bureau. Denver was selected as the major market origin for Tables W.1, W.2, and W.3.

Through-Rate and Rate-Group Situation

The Wyoming rate-group maps demonstrate the typical situation in which single-factor through rates are published only to a limited number of points.

Rates from Denver. There are fewer rate-mileage inconsistencies on the Denver origin map, Map W.1, than on the Salt Lake City map discussed subsequently. However, note should be taken that points just south of Yellowstone Park take rates at the 1300 cent level while points just to the east of it take rates at the 1000 cent level. The difference in distance from Denver is not remarkable. As will be seen, there is a definite question of an abnormally high level of rates from Denver to Wyoming points.

Rates from Rapid City. Rapid City is the origin shown on Map W.2. Rate progression is reasonably logical but there is a very small number of rate groups. This may reflect a very small volume of business between the subject points.

Rates from Salt Lake City. Map W.3 demonstrating rate groups applicable from Salt Lake City has examples of the sort of groups which are elongated along major highways and there are several instances of rate/mile inconsistencies.

Attention is drawn to the fact that the rate level across the southern part of the state along the major highway leading to Cheyenne is much lower than the rates for similar or shorter distances leading into the Lander-Riverton area. Also the distance from Salt Lake City to Sheridan is about 22 percent greater than from Salt Lake City to Cheyenne, but the rate is approximately 42 percent higher.

Altogether, the Wyoming maps substantiate Hypothesis 1 as stated in Chapter 4.

The Arbitrary Rate Situation

As noted, Denver was selected as the major market origin for Wyoming. In the tariff applicable from Denver, there are approximately thirty points requiring arbitrary rates over various Wyoming rate groups. For the most part, these are flat arbitrary rates which do not vary with class or freight or distance, and they are, relatively, rather high in level. For this reason, Table W.1 shows only five so-called typical non-rate-group points.

Some points in Wyoming which are not named in the tariff may be ratable by intermediate application. The appropriate rule is Item 577 of Tariff RMB 304A which is shown as Exhibit 4.3 in Appendix 4. However, intermediate application is limited to shipments of over 500 pounds and, as can be seen, many Wyoming points and areas are excepted from it.

Relationship of Rates to Mileage

Tables W.2 and W.3 bring together the non-rate-group points from Table W.1 and the Wyoming representative points from Chapter 1 and demonstrate the rate/mile relationships. The bar graph in Table W.3 not only shows an inconsistent tapering pattern but also the highest cents per hundred points per mile figures of any of the states in the project study area.

A compensating factor is that mileages from Denver to Wyoming points are also generally the shortest in any of the examples we have given. Even so, the rate levels seem higher than in other states; a later comparison examines this. At any rate, the tables demonstrate an inconsistent relationship between rates and mileage.

We must observe that the Wyoming data bears out all three hypotheses stated in Chapter 4.

Comment Regarding Findings

In Chapter 4 three simple hypotheses were established as a mechanism for examining the data set forth in this chapter. For convenience, they are now restated:

1. Through rates are published only to a limited number of rate groups; many small points are not covered by these rate groups.

2. Arbitrary rates and/or combinations of local rates must be used to reach many points not covered in rate groups.

3. Generally, there is no continuous, uniform relationship between mileage and the subject freight rates as described above; in some cases rates may be higher for shorter than for longer distances in the same direction or even over the same route.

In our preview of findings in Chapter 4, we indicated that in general all of these hypotheses are true with certain possible limitations. These limitations or exceptions became obvious as the data sets in this chapter seem to fall into two distinct groups, those which fully substantiate the above hypotheses and those which tend to show that a different set of circumstances could be made to prevail.

Colorado, Idaho (with the exception of the Pacific Inland Tariff Bureau area), Montana, Utah and Wyoming have rate structures which agree substantially with the concept of the hypotheses.

To a greater or lesser extent Nebraska, New Mexico, North Dakota and South Dakota exhibit rate structures where rate groups cover the entire state, arbitrary rates are used essentially in true extra-cost situations, where good provision is made for intermediate application and where a more continuous relationship between rates and mileage tends to exist.

There is perhaps a surprising feature, and yet given motor carrier history, one which should be expected, that emerges from the data. This study deals with interstate motor freight carrier rates. Many of the examples presented deal with long distance movements spanning two or more states; this implies a national system of truck transportation. Yet this evidence seems to indicate at least some rate conditions in the individual states which are remarkably different from each other state.

The next chapter presents further comparisons drawn from these data sets and prepares for some possible explanations of situations described.

CHAPTER 6

Rate Level and Mileage Relationships

This chapter deals with several matters which logically follow or are related to the discussions of Chapter 4 and 5.

First is the matter of rate levels. The hypotheses examined in Chapter 5 made no statements as to the comparison of motor carrier freight rate levels which apply in the various project study area states or between different regions of the project study area. However, an examination of the bar chart for each state in Appendix 5 raises the question of how each state compares to the other.

The second matter deals with rate-mile relationships. Some persons report that motor carrier rates in the project study area have traditionally been based upon railroad rather than highway mileages. Data are presented to deal with this contention.

Third, the percentage relationships between class rates applying to different commodities are examined. Theoretically, the different "classes" and the class rates which apply to them are supposed to bear definite percentage relations to each other. Some observers allege that the class rates no longer bear the proper relationship to percentage class "ratings." Data are presented to investigate this contention.

Rate Levels

Cursory examination of the bar charts in the data sets of Appendix 5 creates the impression that rate levels for some states may be higher than for others. These charts show rates in cents per hundred pounds per mile. Reference to the New Mexico chart in Table NM.3 in comparison to the Wyoming chart in Table W.3 suggests that Wyoming rates are much higher. Any such comparison between the Appendix 5 bar charts which are discussed in Chapter 5 is misleading because it does not take into account that the distances involved are different nor does it consider the tapering principle.

Table 6.1 in Appendix 6 was prepared to reveal whether there are differences in rate levels applying for the various states when comparable mileages are considered. The table was constructed by selecting comparable mileage categories from the charts for different states. The rates for each group were then arrayed in order of descending magnitude.

The result indicates that rates for approximately the same length of haul are indeed different for the different states. For instance, for the shorter mileages Wyoming is the highest rated; for longer

mileages, New Mexico and Utah tend to be the lowest rated.

The observer will note that the differences are not very great in cents per hundred pounds per mile. Percentagewise, however, they are important. On heavy shipments moving long distances a small difference in cents per mile can mean a very large difference in total freight charges paid.

Some evidence is present to indicate that not all of the differences are due to differences in costs and revenues. For instance, a heavy traffic volume would be expected between Los Angeles and Salt Lake City. Also, highway and terrain characteristics are relatively favorable to low cost operation. Thus, a rate of 1.19 cents per hundred pounds per mile for this 752-mile haul could appear reasonable. Much lighter traffics and perhaps more difficult route characteristics must prevail between Kansas City and Alamogordo, New Mexico, with a rate of 1.10 cents per mile, between Kansas City and Gallup, New Mexico, with a rate of 1.08 cents per mile, or Denver and Coeur d'Alene, Idaho, with a rate of 1.09 cents per mile.

Table 6.1A presents an arrangement of all rates tabulated in Chapter 5 (Appendix 5). In this table all point to point journeys are listed in order of increasing mileage to permit comparison of rates in cents per hundred pounds per mile for hauls of approximately the same length.

Sub-conclusion

One may conclude that rate levels are different in different parts of the project study area. The differences are not necessarily based upon differing cost and traffic characteristics.

Rail-Highway Rate-Mile Relationships

Motor freight carriers began to compete seriously with the railroads (principally for short-haul or medium-haul less-than-carload freight) in the late twenties and early thirties. Frequently, they charged the rail rate and gave the added service of free pick up and delivery (which the railroads did not).[1]

In the project study area, highway routes frequently paralleled or approximated established rail routes. When the motor freight carriers of the region were brought under federal regulation in 1935, they were required on relatively short notice to publish classifications and freight rate tariffs for the services they were offering. The original National Motor Freight Classification closely resembled the Consolidated Freight Classification then used by the railroads. Motor carrier freight rates in the project study area were also based strongly upon existing railroad rates. They were not necessarily identical but they were closely related.

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[1]See, for instance, Wayne G. Broehl, Jr., Trucks, Trouble, and Triumph, (New York: Prentice-Hall, Inc., 1954), p. 22.

While the national highway system has been greatly improved, relocated and shortened since the thirties, the railroads, being inflexible, have retained almost the identical route patterns of that time. Also the Western railroads, in particular, were built through undeveloped territory. Since construction was moving westward, branch lines tended to run away from the main line in northwesterly or southwesterly directions. Therefore, journeys originating in the West must go back to the fork in the lines and then reverse direction to reach a point on another line. Highways, however, tend to go more or less directly between all points and to bridge the legs or "tines" of forked railroad lines. For instance, one may go from Ogden, Utah, to Billings, Montana, via two railroad routes. He may proceed eastward to Cheyenne, Wyoming, a distance of 483 miles and then go northward 550 miles to Billings for a total of 1033 miles. Or he may go north 397 miles to Butte and then east 236 miles to Billings for a total of 633 miles. The highway mileage from Ogden to Billings, on the other hand, is 521 miles.

Rail-Highway Rate-Mile Data Comparison

Table 6.2 in Appendix 6 presents data designed to examine the hypothesis that motor freight carrier rates tend to be based upon railroad mileages. As discussed above, it is common for rail mileages between two points to exceed highway mileages. Therefore, this hypothesis or assertion perhaps carries with it the implication that if motor freight carrier rates are based on rail mileages, the rates are inordinately high. One point of view might be that the motor freight carrier should take advantage of his shorter journey and publish an attractive rate. Although such a view would be an oversimplification which failed to consider a possibly higher truck cost per mile, a complete equality of rail and truck rates might lend credence to the hypothesis stated above.

A sample of origins and destinations was obtained by selecting the capitals of the nine states in the project study area. Short-line railroad and highway mileages were then obtained between each capital and its counterpart in every other state. The Class 100 less-than-carload and less-than-truckload rates between all pairs of capitals were then obtained. The rates used in this comparison are essentially those which apply on shipments having a minimum weight of about 6000 pounds.

As explained in Chapter 2, the railroads have, in recent years, undertaken to phase out the carriage of small shipments which require freight house handling. Therefore, they accept only LCL shipments loaded by shipper and unloaded by consignee and exceeding several thousand pounds in weight. (This minimum weight ranges from 4000 to 6000 pounds, depending on the railroad. In the project study area the minimum is usually 6000 pounds).

For the above reason Table 6.2 presents the motor freight carrier 5000-pound rate in comparison to the rail LCL rates. It must be noted that there are also published in most motor carrier tariffs at least two levels of rates for smaller quantities.* Such LTL rates would be higher

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*Different levels of class rates for different weight shipments are sometimes referred to as "grasshopper scales." The term is subsequently discussed more fully.

than the truck rates shown in Table 6.2 but they could not presently be considered as directly competitive with rail rates.

Discussion of Table 6.2

Table 6.2 in Appendix 6 presents the Class 100 rail LCL and truck LTL rates which would accommodate a shipment of 6000 pounds between any pair of state capitals in the nine-state study area. The first two columns show the comparative mileages of the modes; the last two columns give the rate of each mode in cents per hundred pounds per mile.

Examination of the table reveals that, with one exception (between Denver, Colorado, and Lincoln, Nebraska) the railroad mileage is always greater than the highway mileage. In 28 of the 36 cases shown, the motor freight carrier rate is lower than the rail rate. In the remaining eight cases, of course, the railroad rate is lower.

It is well established that, on the average, truck costs per ton mile are higher than railroad costs per ton-mile. Therefore, for hauls of approximately equal distance, it could be expected that motor freight carrier rates (which should reflect this higher per-ton-mile cost) should be higher on a cents per hundred pounds per mile basis than the parallel railroad rate.

In 16 of the 36 cases shown in Table 6.2, the motor freight carrier rate in cents per hundred pounds per mile was the same or lower than the rail rate for the same haul. In seven additional cases the motor carrier rate per hundred/per mile is within 10 percent of the rail rate.

Possible conclusions. There is no question that motor freight carrier rates in many cases were originally based upon railroad mileages, because the men who made the rates say it is so. From the data in Table 6.2, however, one must conclude that the effect of rail mileage upon motor carrier rates has been substantially modified by the passage of time. No doubt other factors are more important in today's rate-making decision.

Class Rate Percentage Relationships

The process of freight classification and the concept of class rates have been explained in Chapter 3. Before 1952 the class rating categories applicable to railroad and motor freight carrier class rates differed in the various regions of the country. Three separate systems of classification were in use in rail transportation and at least five were used in truck transport. Class ratings and the class rates applicable to each class rating were not necessarily logically related. Also, there was no uniform relationship between class rates and mileage.

In 1939 the Interstate Commerce Commission instituted proceedings known as Dockets 28300 and 28310, Class Rate Investigation, 1939. As a result of these proceedings the railroads were ordered to establish a uniform system of class rates based on mileage for the territory east of the Rocky Mountains. A uniform classification was also prescribed.

These changes finally became effective in 1952. Later, Docket 30416, Class Rates, Mountain-Pacific Territory, effective 1956, established a modified class rate scale and extended the Uniform Freight Classification to the area west of the Rocky Mountains.

The motor freight carriers voluntarily followed the lead set by these proceedings and established their own uniform classification and class rates constructed similar to those of the railroads.

A feature of the railroad so-called uniform class rate system is that the different classification categories or class ratings, to which different varieties of commodities are assigned, are supposed to be percentages of each other. Class 100 is taken as the basic class rating. Effectively, then, class rates become a schedule which gives the rate per hundred pounds for moving Class 100 merchandise every possible distance that it can be hauled. Other classes of goods then move on rates which are either multiples or percentages of the Class 100 rate. Thirty-one classes are in use ranging from Class 400 down to Class 13. If the Class 100 rate were 200 cents, the Class 400 rate would be 800 cents, and so forth.

Hypothesis about Motor Carrier Class Rates

Since the 1950's motor freight carrier class rates have supposedly closely imitated rail class rates with the rate for each class rating being a standard percentage of the Class 100 rate. During the last two decades or more, freight rates in general have been greatly increased. If only the Class 100 rate is increased and rates from the other classes derived from it, the original percentage relationships are maintained. However, many rate increases have been "across the board," which tends to distort the comparative percentages.

In addition, motor freight carriers have continually phased in rates designed to recover the higher costs of handling small shipments while not overpricing the larger shipments so they would be captured by competitive transport modes. One method of doing this is through the publication of "grasshopper scales." Previous to the adoption of this concept, motor freight carriers published essentially two levels of rates--one for "less-than-truckload" lots and one for volume shipments which exceeded the minimum weight required to obtain a lower volume rate. Under a "grasshopper scale" the rate decreases at a number of "weight breaks" so that there are several rates for each class--perhaps an LTL rate, a 1000-pound, a 2000-pound, a 5000-pound, and a truckload rate. If increases are applied to these weight groups separately, a distortion of the class rate percentages again occurs.

The hypothesis. The contention has been stated that the percentage relationships between motor freight carrier class rates and the appropriate class ratings in the project study area have become distorted because of increase situations such as those described above. This can be accepted as an hypothesis for testing.

Data to Examine Hypothesis

In order to deal with this hypothesis, certain rate bases were selected for examination from the class rate sections of tariffs already examined in previous portions of this study. These are presented as Tables 6.3 through 6.12 in Appendix 6. These tables were constructed by taking excerpts from the class rate pages of two Middlewest Motor Freight Tariff Bureau tariffs, one Pacific Inland Tariff Bureau tariff, and seven Rocky Mountain Motor Tariff Bureau tariffs. In each case, one rate basis rate set, for a selected haul, has been set forth in the table. The results are itemized below.

Table 6.3. This table is from Middlewest Tariff MWB 502-A and presents rates between Minneapolis and Denver. Unlike most of the other tables, this table shows multiples of the Class 100 rate as well as percentages of it. The multiples of Class 100 tend to be on the low side of the true percentage although they approach the true percentage in the higher weight brackets. The percentages of Class 100 tend to be on the high side of the true percentage and they tend to be higher for small shipments. For instance, in the "LTL" category there is an effective rate stop at Class 46 although a supposed Class 35 is published for that weight group. It may be noted that the percentages of Class 100 are nearly true percentages at the Volume Truckload (VT) level.

Table 6.4. This table is also a Middlewest Motor Freight Bureau tariff and the haul selected was that between Kansas City and Roswell, New Mexico. The multiples of Class 100 are again understated but they are slightly more uniform than in Table 6.3. The percentages of Class 100 are only slightly on the high side until Class 50 is passed. Then, in the standard classes an effective rate stop of Class 50 has been built in (except for Class 31). Special classifications carrying an "A" designation have been inserted. (These are, essentially, exceptions to classification applying only on a few commodities and a few origins.)

Table 6.5. Pacific Inland Tariff Bureau Tariff 308-A is represented by this table. The haul is between Spokane, Washington and Grangeville, Idaho. No multiples of Class 100 are shown. These are published in another section of the tariff which converts Class 100 rates into true multiples of Class 100 so no distortion occurs. The percentages of Class 100, however, are another matter. This tariff groups all the percentage classes into five groups. Although this format purports to cover all classes, it in effect limits the available classes to Class 100 and approximations of Class 85, Class 70, and Class 60. For all weight groups except truckload (TL) there is a built-in rate stop at approximately Class 60. For truckloads the effective rate stop is Class 50 although the heading conveys the impression that a Class 35 or at least a Class 45 rate is being assessed.

Table 6.6. This table was derived from Rocky Mountain Tariff Bureau RMB 301 applicable between Phoenix, Arizona, and Albuquerque, New Mexico. This tariff was originally published by the Interstate Freight Carriers Conference of Los Angeles which was absorbed by the Rocky Mountain Bureau. The tariff retains some of its original characteristics and differs somewhat from other Rocky Mountain tariffs.

All Rocky Mountain tariffs, however, use a system whereby multiples of Class 100 are published in a table under an item number separate from the percentage of Class 100 scales. This table gives standard multiples of Class 100 so there is no percentage distortion for classes above Class 100.

As may be seen in Table 6.6, however, the true percentages of Class 100 in Tariff RMB 301 are substantially higher than the percentage class ratings they are supposed to represent. With the exception of truckload quantities at Class 45 and Class 40, there is a built-in rate stop at Class 70.

Tables 6.7 through 6.12. The remaining tables in Appendix 6 were generated from other important Rocky Mountain Motor Tariff Bureau tariffs which were referred to in previous parts of this study. The applicable tariff and the particular haul chosen from it are identified on each table. These tariffs, again, are all multiples of Class 100 in a separate item and there is no distortion in those classes.

Examination of these tables shows that there is also very little distortion in the percentages of Class 100 in these Rocky Mountain tariffs. All classes for all weight groups are nearly at the true percentage of Class 100.

Sub-conclusion Regarding Percentage Relationships

The distortion of the relationship of class rates to their appropriate percentage class ratings is not as great as some of the allegations which have been made. However, it would seem that any distortion is unnecessary. The class rate system is designed to take care of the differing transportation characteristics of different goods by means of the classification tariff. Once this has been done, it seems illogical to make another adjustment in the class rate tariff.

The next chapter investigates the subject of commodity rates.

CHAPTER 7

The Role of Commodity Rates

Previous analyses in this study have dealt with class rates which are homogeneous enough to be comparable throughout the study area. Commodity rates are heterogeneous and lack comparability. They do play an important role in the economic impact of freight rates upon the region, however. This chapter makes generalizations about the commodity rate situation in each state as well as the project study area as a whole.

Method of Investigation

Commodity rates reflect the volume traffic that is available to move into or out of an area. Therefore, specific comparisons between parts of a region are difficult, if not meaningless.

This chapter, therefore, consists mainly of generalizations made by the project team of rate experts after systematic investigation of the tariffs.[1]

First a series of discussions was held; these resulted in the establishment of a set of hypotheses about commodity rates in the project study area. The tariffs were then examined in detail in order to accept or reject these hypotheses. Because of the difficulty of specific comparisons, generalizations based upon expert knowledge were made in response to each hypothesis. These appear subsequently in the chapter.

Nature of Commodity Rates

Because class rates apply to classes of goods which have similar transportation characteristics, they are essentially average rates based on average costs. When carriers can estimate specific costs for specific products, they can publish rates which take the specific commodity out of the class (or cost-averaged) group. They do this in two ways: (1) by the publication of classification exceptions ratings and (2) by the publication of commodity rates.

Exception Ratings

The purpose of an exception rating or exception to the classification is to remove an article from the governing classification and establish class rates for it which are different from the normal class rates. This is done by publishing an exception or different class rating for the article in the particular class rate tariff. Examination of the

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[1]This investigation was aided by the fact that two of the rate experts have been instrumental in the construction and publication of these tariffs since the beginning of federal motor carrier regulation in 1935.

class rate tariffs applicable to the project study area reveals that this practice is relatively rare in the region.

Commodity Rates

Commodity rates are specific rates applicable to a particular commodity or group of commodities between specific points. They generally take precedence over both class rates and exception ratings but they almost always require a minimum weight in excess of the LTL or lower weight groups. More and more the tendency is to make commodity rates subject to minimum weights or to increase minimum rates. In the project study area, motor carrier commodity rates usually do not apply by intermediate application to points between the specific origins and destinations for which they are published. Commodity rates usually apply only in one direction.

Importance of Commodity Rates in the Project Study Area

Transportation writers state or imply that the major volume of American freight traffic moves on commodity rates. For instance, Sampson and Farris say,[2]

> Actually, the great bulk of freight tonnage and ton-mileage both by rail and truck moves under commodity rates. (Perhaps more than four-fifths of rail tonnage in the country as a whole, and more than 90 percent in some areas, is commodity tonnage.) The commodity-rate tail wags the class-rate dog.

Perhaps a more descriptive statement of the motor carrier situation is made by Taff.[3]

> No exact figure is known as to the percentages of traffic which move under class rates, commodity rates, or exception ratings for the United States as a whole. Some indication of the tonnage moved under each type of rate is given in a study made in 1945, which indicated that approximately 28 percent of the tonnage moved on exception ratings, an additional 28 percent on commodity rates, and 38 percent on class rates, with an additional 6 percent on class-rate stops.

The latter quotation suggests that the percentage of traffic volume moved under commodity rates by motor carriers may not be as substantial as the percentage moved by railroads.

(Note: Class Rate Stops: The National Motor Freight Classification publishes truckload ratings on some commodities as low as Class 35. However, many tariffs do not publish rates compatible with the ratings

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[2]Roy J. Sampson and Martin T. Farris, Domestic Transportation, Second Edition (Boston: Houghton Mifflin Co., 1971), page 169.

[3]Charles A. Taff, Commercial Motor Transportation, Third Edition (Homewood, Ill.: Richard D. Irwin, Inc., 1961), page 438.

of the governing classification. This condition appears in several forms or combinations of forms. For example, the class rate scale may only go down as far as Class 40 or 45. In Rocky Mountain Tariff RMB 301, for example, the scale floors out at Class 40 which, in turn, averages only about 44% of Class 100. Tariff RMB 521 floors out at Class 45, which actually averages about 47% of Class 100. Tariff RMB 303 floors out at Class 37½, which usually averages approximately a true percentage of Class 100 but from almost all Eastern states covered by the tariff to Colorado and Wyoming, the floor is a percentage scale designated Class 48. Some tariffs, such as Southern Motor Carriers' Rate Conference Tariff 512-B, publish Class 45, 40, 37½ and 35 rates which are only one or two cents apart and only a few cents lower than Class 50.)

Percentage of Commodity Rate Traffic in Rocky Mountain Region

In the nine-state project study area, motor freight commodity rates probably move a smaller percentage of traffic volume than is the case nationally. Exhibit 7.1 presents a letter from the Rocky Mountain Motor Tariff Bureau which states authoritatively that "for the calendar year 1973, 45.30 percent of the hundredweight handled by the general commodity carriers, under tariffs issued by this agency, moved on commodity rates."

The Rocky Mountain Motor Tariff Bureau, because of its large scope, publishes tariffs for what are, essentially, two diverse sets of traffics. One set (including Tariff ICC RMB 521 previously referred to herein) covers transcontinental traffic which is national in extent. Most of the tariffs of the bureau (including all other RMB tariffs referred to herein) apply to the nine-state area under study and are regional in scope. Commodity rated traffic undoubtedly makes up a larger percentage of the volume moving under the transcontinental tariffs than under the regional tariffs. Therefore, the Bureau's figure of 45.30 percent commodity rated traffic is probably high in regard to exclusively regional traffic. This indicates that the relative effect of the class rate structure on the economy of the project study area is much more important than might be concluded from reference to national figures.

Traffic Imbalance

Traditionally, the states of the project study area have been somewhat colonial in nature. They have shipped out low-value, bulk products to outside areas and have received high-value, manufactured products in exchange. For general commodity common motor carriers this has resulted in an imbalance of traffic with the inbound movement predominating. Some regional traffic experts state that 38 percent more equipment is required for the inbound than for the outbound movement. Although outbound movement is more bulky than the inbound movement, it does not necessarily move by the same type of carriers.

Hypotheses about Commodity Rates

Consideration of the above facts about percentage of commodity rated traffic and traffic imbalance led the research team to make two general

hypotheses about commodity rates:

1. Motor freight carriers are cooperative in publishing attractive commodity rates to encourage backhaul of such commodities as are available for movement outbound. For the most part, these rates apply on products which are of low value per pound.

2. Relatively few inbound commodity rates are published to states of the project study area because of the traffic imbalance and the preference of carriers for the higher class rates which help subsidize the low-rated outbound traffic.

Examination of the commodity rate sections of the tariffs caused a third hypothesis to be set forth:

3. Many of the commodity rates which appear in the tariffs are "paper" rates--officially published but essentially useless as no traffic moves under them.

Before discussing these hypotheses, a comment about the consist of outbound traffic from the project study area is appropriate.

Consist of Traffic

With the exception of Idaho, three main product categories or activities comprise the most important production of each of the study area states. In varying orders of importance, these are agricultural products, manufacturing, and minerals. According to the data references, production of forest products outranks mineral production in Idaho. The rankings for the various states are as follows:[4]

Colorado:		
	Value added by manufacturing	$2.6+ billion
	Farm receipts	2.19 billion
	Mineral production valued at	467 million
Idaho:		
	Farm marketing receipts	$1.1 billion
	Value added by manufacture	775 million
	Value of forest products	153 million
Montana:		
	Farm receipts	$1+ billion
	Estimated total mineral production	362 million
	Value added by manufacture	330 million

[4]Data are quoted from World Almanac and Book of Facts, 1975 (Cleveland: Newspaper Enterprise Association, 1974), pages 673-702. Agricultural figures are based on reports of the U.S. Department of Agriculture and state agencies; mineral statistics are those reported by the Bureau of Mines; manufacturing statistics are from the Bureau of the Census. (Figures verified by reference to U.S. Statistical Abstract.)

Nebraska:		
	Farm receipts	$3.7 billion
	Value added by manufacture	1.8 billion
	Value of mineral production	70 million
New Mexico:		
	Total value of mineral production	$1.2 billion
	Farm receipts	740 million
	Value added by manufacture	270 million
North Dakota:		
	Farm receipts	$1.7 billion
	Value of mineral production	101 million
	Value added by manufacture	not given
South Dakota:		
	Total farm receipts	$1.7 billion
	Value added by manufacture	229 million
	Total value of mineral production	80 million
Utah:		
	Value added by manufacture	$864 million
	Total mineral production value	644 million
	Farm receipts	329 million
Wyoming:		
	Total mineral production value	$842 million
	Farm receipts	415 million
	Value added by manufacture	119 million

In at least six of these states petroleum and natural gas are a large part of the mineral production. Neither of these products are well suited to volume movement by motor freight carrier.

In five of the states, agricultural products are the most important production. In their unprocessed form, the transportation of these by truck is exempt from all economic regulation in interstate commerce. One member of the research team summarized his conclusions as follows:

Agricultural Traffic

With respect to motor carrier traffic, it is impossible to arrive at any reasonably accurate figure concerning outbound interstate movements of agricultural products from the study area states due to the prevalence of carriage by unregulated trucking operations under the agricultural exemption.

It is very noticeable that practically none of the outbound motor carrier commodity rates from the study area states apply on exempt commodities.

The motor carrier rate structure on exempt commodities is a very nebulous hodgepodge of ad hoc negotiations, usually varying from day to

day and from one load to another. Rail commodity rates, where applicable, usually form a ceiling and the bare bones level of business survival usually (but by no means always) serves as a floor for such rates.

Inasmuch as the exempt agricultural commodity list includes livestock, logs, and practically all fresh or frozen fruits and vegetables, the scope of this traffic is tremendous.

In addition to exempt commodities moving via the totally unregulated truckers, exempt commodities are frequently handled by regulated carriers to fill otherwise empty backhauls.

Responses to Hypotheses

1. The first hypothesis set forth above is true. Motor freight carriers are very cooperative in establishing outbound commodity rates to attract necessary backhaul. The major reason that these rates apply mostly upon low value per pound products is that they reflect the traffic which is available to move. Thus, a large proportion of outbound commodity rates apply on products such as clay, stone chips, ores, hides, sawdust fire logs, etc.

When manufactured products are available for outbound movement, carriers are responsive in publishing commodity rates for them. Thus, in Colorado and Utah where manufacturing is the leading segment of production, outbound commodity rates are found on such products as canned or processed foods; belts, belting; tires; electrical appliances and instruments; iron and steel articles. Generally, when there are inbound commodity rates on the same product, the outbound rates are lower.

Perhaps the extreme example appears in the case of North Dakota where agriculture and minerals are indicated as the leading industries and manufacturing is shown as "N.A." Almost no outbound commodity rates are published from North Dakota. This indicates a lack of commodities suitable for outbound regulated motor carrier movement, and would lead one to expect that the class rate structure (since inbound overbalance must be great) would be somewhat high to cover the lack of backhaul.

2. The second hypothesis is essentially false. Many inbound commodity rates have been established into various parts of the study area by motor freight carriers. Some of the commodities so provided for are consumer goods. Others are component parts or materials used in manufacturing processes within the study area.

Almost all of the commodity rates so established are on a noticeably higher level than on comparable outbound commodities and are on commodities otherwise subject to relatively high class rates.

These findings are in line with the expectancy of the hypothesis that there is probably a tendency of inbound rates to subsidize outbound movements. However, it shows that carriers are willing to reduce rates to some extent where volume warrants it.

3. The third hypothesis is true and gives some interesting insights into the problems of rate making. In the freight rate tariffs of both rail and motor carriers, rates are frequently found which move no traffic. Often this is because a lower freight rate can be found or constructed in another manner, yet the unused rate is overlooked and continues to be published.

In the Rocky Mountain region perhaps a more common cause of "paper" rates is that the traffic the rate was published for failed to develop or has ceased to exist. The research team found several explanations for the existence of "paper" rates.

The simplest reason, of course, is that the companies, plants, or industries for which the rates were published have gone out of business.

Occasionally, commodity rates are published to encourage development of a plant or industry at a point which is part of a class rate group or which is otherwise economically associated with a group of other towns. When the rate is put in for a plant at one point, all of the other points in the group will be more or less automatically included in hopes future traffic will develop.

Sometimes "missionary" rates are published which are intended to encourage traffic to develop. Frequently, these carry an expiration date in case traffic doesn't develop. Subsequently the expiration date is extended or even removed in the rate bureau routine and a "paper" rate is created.

The traffic officials of motor carriers are usually not fully aware of all the traffic which their respective companies are or are not moving. Rate complexity makes it extremely difficult to know what volume of traffic is moving under each rate. Therefore, when a rate committee effort is made to survey and eliminate "paper" rates, some member is apt to be in doubt about the usefulness of some rate and ask that it be retained. Situations have occurred where rates moving substantial traffic were removed as "paper" rates. Attempts to republish the rates then met with protests from competitive carriers with the regulatory agency upholding the protest and refusing to allow the rate to be published again.

Concluding Remark

Commodity rates demonstrate, better than class rates, two important factors. One is the way in which motor freight carriers attempt to recognize and encourage traffics of potentially sufficient volume to be profitable to haul. The other is that if it is desirable to do this scientifically with balancing of headhaul and backhaul and with equitable treatment of different geographical areas, then more information must be developed as to what traffic is actually moving on what rates.

It must be remembered, however, that commodity rates are essentially volume rates, and that they usually do not apply to intermediate points. Therefore, they do not necessarily encourage small shippers in small places to develop economically.

CHAPTER 8

Economic Impact of Motor Carrier Service

The purpose of this chapter is to make an assessment of the impact of motor freight carrier service availability and rate structure upon the economy of the project study area. This is accomplished through a review of the data presented in previous chapters of this report. Pertinent comments are made about the data relating them to actual or potential economic situations. Data are generally discussed in the order in which they appear in the report; however, in some cases data drawn from different parts of the report are integrated to better elucidate the particular situation.

Carrier Service Availability

Perhaps the primary factor concerning economic impact of motor freight carriers is the extent to which the businessman of the project study area is dependent upon them. Table 2.1 of Chapter 2 indicates that of 1032 cities and towns sampled in the region, less than 10 percent are served by air transport, nearly 80 percent are located upon rail trackage, and all have been authorized some type of regulated motor carrier service. The table comparing transportation modes in Chapter 3 indicates that air carrier share of the national cargo market is less than one percent of ton-miles. Discussion in Chapter 2 and in Chapter 6 indicates that railroads no longer seek LCL shipments of under 4000 pounds minimum weight. Thus, throughout the project study area the small shipper is largely dependent upon truck transportation.

Amount of Competition

Data in Chapter 2 also indicate that probably 30 percent of the towns in the region are authorized service from three motor carriers or less. If the investigation done by the State of Wyoming (Exhibit 2.1) is indicative, a large percentage of carriers authorized to serve certain points do not choose to do so. This is because large carriers may find it more profitable to interline with small carriers serving outlying points rather than to go themselves.

Examination of Table 2.1 shows that the larger cities and the towns located along major highways have the largest number of carriers serving them. Towns with service from three carriers or less are usually of under 1000 population.

The above means that while the businessman in the small city of the region is primarily dependent upon motor carrier transport, he is also probably dependent only upon one or two carriers. The unfavorable responses to the questionnaire discussed in Exhibit 2.3 indicate that the

regional small businessman generally may not be too well satisfied with the transportation alternatives which are thus presented to him.

Discussion. In the early days of motor freight transportation, routes were pioneered for and located by the availability of traffic. In the sparsely settled West, a circuitous, roundabout route might tap a number of sources of revenue, while a more direct route between two considered points might traverse an intermediate territory which was practically a desert. An example is the Salt Creek Freightways route of operation between Rock Springs and Lander, Wyoming, via Rawlins. In fact, Salt Creek's current operation as practically a single carrier over the whole State of Wyoming indicates the difficulty of generating traffic in a sparsely settled area.

Today, in many parts of the region the picture has changed. The small, struggling operators of 1935 have been merged into the route structures of transcontinental truck lines. The total economic situation has now changed and the primary emphasis is on the movement of large volumes of traffic between big freight generating points. High labor costs make it unattractive for the large carrier to stop his vehicles at scattered small towns for scattered small shipments. Thus, the gathering function performed by the original entrepreneur is avoided by his successor.

Effect of Restrictions

Questions have been raised as to whether the available competition of motor carriers has been reduced by the existence of route restrictions and gateway restrictions in the certificates of the carriers. These restrictions may be of two types which might be referred to as (1) inherent and (2) acquired through tacking. These are discussed in Chapter 2 where we may conclude as follows:

1. Inherent route restrictions are those which are stated in the original certificate of public convenience and necessity issued to the carrier. These were two main varieties. One of these required the carrier to travel a specific highway between two points although he was not allowed to serve towns along this highway. This was particularly wasteful economically when a more direct route was available. The second type was a requirement which restricted a carrier to a one-way move over a particular route. This, of course, prohibited the carrier from developing a backhaul and cut the potential efficiency of his operation in half. Restrictions such as these have been pretty well eliminated through the merging of small carriers into larger ones. A few isolated cases may remain, however.

2. Restrictions acquired through tacking occur when carriers build a larger route structure by merging together the certificates of smaller operators. This results in a through route between important points which it was probably not the original intent of the regulatory agency to create. Thus, it could be viewed as an "artificial" creation of an oversupply of transportation. Their impact, therefore, probably does not affect the supply of transportation adversely.

Unfortunate Route Structures. Although they are not route restrictions per se, there are situations in which carrier route structures are circuitous between certain points. This results in poor service, high rates and peculiar rate structures. Examples may be seen in Chapter 5 in the discussion of the arbitrary rate situation in Idaho, and in the discussion of arbitrary rates in Montana. In the Idaho case, rates are based on a circuitous route through Washington State and in Montana upon a circuitous move through North Dakota. Undoubtedly, these situations arose long ago before direct highway connections were made and when small carriers were establishing "traffic gathering" operations. Subsequent traffic has probably been so sparse that opening a new route into the territory has never been considered.

Summary of Impact of Service Availability.

The economy of the project study area is very dependent upon motor freight carrier transportation. Although motor freight service is very widespread throughout the region and available almost everywhere, there may be few alternative carriers available to the user. This is because many parts of the region would not support more than one carrier. The lack of profitability of motor carriers in sparsely settled areas may be a factor in their ability to provide a quality of service which earns general public satisfaction.

Impact of Intermodal Rate Competition

The main thrust of this study is toward motor freight carrier rates. However, a comparison of the rates of other modes was done in Chapter 3. The result of this analysis was that the class rates of the different modes are not comparable. A sensible comparison can only be made when a particular commodity and haul are considered. Two factors emerge which indicate an impact on regional economy, however. First, a number of varied services are available, although this must be qualified that they are restricted to journeys between major points such as those illustrated. Second, it is to be noted that substantial minimum weights must be shipped in order for the lower rates to apply. This is, of course, a cost requirement of the carriers if they are to move traffic profitably, but it is not a factor which encourages the small businessman.

Economic Impact of Rate Structure

The motor freight carrier rate structure of the project study area has many aspects which directly and indirectly affect the economy of the region. The effects of various characteristics of the rate structure are overlapping and interrelated. An expeditious method of handling them, therefore, is to discuss them in the order in which they appear in previous chapters.

Impact of Intermediate Application

Chapter 4 explains how rates may be made to small towns located between important centers through the process of intermediate application.

Generally, rates made in this fashion give a small point (unnamed in the tariff) the same economic advantage as some large traffic generating center just beyond it.

In the tariffs of the Rocky Mountain Motor Tariff Bureau which cover most of the project study area, the use of intermediate application is very restricted. It is allowable only in limited geographic areas and is then not applied for small shipments (under 500 pounds or 1000 pounds, depending on the particular regional tariff). This means that small shipments to small towns are made subject to local rates or to through rates (to break-bulk points) plus arbitrary rates. Although the text does not say so, many of these small shipments must thus be subject to minimum charges--probably double minimum charges as a minimum would apply on each portion of a rate constructed by combining local rates or arbitrary charges. Obviously, this makes the freight on small shipments to and from small, outlying towns relatively expensive.

Another effect operates on larger shipments as well. This is that if intermediate application is restricted geographically, an extra charge can be made for distributing a shipment of any size from the important freight generating and break-bulk center to the outlying small destination.

As illustrated in Chapter 5, the rate structures in the states of North Dakota, South Dakota, and especially Nebraska have much more liberal rules pertaining to intermediate application. These may serve as examples that the principle could be more widely used in the project study area.

Impact of Arbitrary Rates

Chapter 4 also introduces the subject of arbitrary rates and defines the concept. Arbitraries are subsequently discussed as they apply in each state in Chapter 5. The impact of arbitrary rates upon the economy and sub-economies of the project study area is undoubtedly very great but is difficult to measure specifically because of the many different forms of application throughout the region. Probably no other rate factor causes as much inconsistency in the motor carrier rate structure of the project study area as the use of arbitrary rates.

Probably the least orderly utilization of arbitrary rates occurs in Colorado followed by Wyoming and then Utah. Our evidence indicates that although arbitraries are used in Idaho and Montana, many points are reached through a combination of local rates. Logical use of arbitraries is made in New Mexico although there are inconsistencies from different origins. A consistent application of arbitraries is used in North Dakota and South Dakota and their use in Nebraska is rare.

Perhaps the primary factor affecting the desirability of using arbitrary rates (desirability in terms of their potentially favorable or unfavorable effect on the economy) is the fact that they are arbitrary. By definition, arbitrary rates are not necessarily based upon the cost of performing the service, or for that matter, upon any other traditional

rate-making factor. In many cases in the project study area, arbitrary rates seem to have been applied simply to get the carrier additional revenue without reference to any particular system of logic.

Inconsistencies from different origins. Examples are given in Chapter 4 showing that different arbitraries are applied on the same haul from certain break-bulk points to certain destinations when shipments come from different origins. Whether the level of these differences is undue or unreasonable is a matter for determination by a regulatory body. The differences do mean, however, that an illogical addition is made to the cost of bringing something from one market area as opposed to another. The potential economic impact is obvious.

Application in addition to group rate. Chapter 4 and the Colorado section of Chapter 5 cite instances in which arbitraries are applicable to certain destinations supposedly subject to through rates in their own right. The towns located along the eastern slope of the Rocky Mountains in Colorado from the Wyoming border to the New Mexican border are sometimes referred to as the "Colorado Common Points." Tariff construction places them in similarly rated groups. To many of the points, however, arbitraries have been added to the through rate to cover carrier costs in breaking bulk at Pueblo or Denver and distributing beyond or back to a point along the inbound route. On the one hand, there is some illogic in first placing these points on an equal footing with the implication that traffic volume and operating costs warrant similar rate group coverage if they do not. On the other hand, it is illogical to assess an additional arbitrary charge if the first implications are true. Differing rate treatment of the population and commercial centers along the Eastern Slope certainly affects the economic development of the area.

Inconsistency of application throughout region. A comment was made at the end of Chapter 5 to the effect that although we may think of our interstate motor freight carrier system as being a national one, there are remarkable differences in rate structure in the individual states or regions. The differing application of arbitrary rates in the project study area highlights this situation. A different way of treating rates to small outlying points in each of the nine states must potentially cause subtle differences in economic development.

Impact of Rate Group Situation

Data in Chapter 5 generally substantiated the hypothesis that motor freight carrier class rates into and within the project study area are published to only a limited number of rate groups.

There is nothing inequitable in the use of rate groups *per se* as long as their structure is logical. For them to be logical, however, there are at least two limitations which should be applied.

One of these is that the rate group should bear a reasonable relationship to the tapering principle. As discussed previously, as start-up costs are amortized over more miles of line haul, more averaging is

possible in the delivery or destination area. Thus, a certain amount of "blanketing" is allowable around major destinations. To some extent, therefore, a logical rate group might be circular rather than linear in character. In some cases in the project study area, rate groups are definitely linear in character. (See Colorado maps and Montana maps in Chapter 5.) When a rate group is excessively linear, the cost averaging is illogical and some points in the group must be subsidizing other points.

Also related to the tapering principle is the arrangement of the groups in an increasing progression of rate level as distance from origin increases. This is not always the case in the region under consideration.

A second limitation in the logical use of rate groups is that there should be an equitable and logical method of constructing rates to small points outlying major interchange or break-bulk centers. (Consistency of method would also probably be desirable.) The size of the rate group around the major point is a primary consideration which can have significant economic impact. If an outlying community is included in a major rate group, it shares the same rate advantages (provided no internal arbitrary rate is applied). If the community is excluded from the rate group, it will be penalized to the extent of the beyond rate applied relative to its large neighbor.

The logical method of constructing rates to outlying points probably should bear some demonstrable relationship to the carriers' costs of providing service.

Of course, the outlying customer who is located intermediate to an interchange point cannot see why he should pay the carrier for a reverse haul back to his location. Perhaps more logically, the customer who is located beyond the interchange point does not expect his total rate to be greater than that to the next interchange center.

Impact of Rate Levels

Table 6.1 which accompanies Chapter 6 presents information about potential differences in general rate levels in the various states of the project study area. These are class rate comparisons and do not reveal whether such differences exist in commodity rates (the difficulty of comparing commodity rates is stressed in Chapter 7). However, it is to be supposed that this table is indicative of general differences in rate levels. The dollar amounts involved, at first blush, are not great. However, when one considers that these are rates in cents per hundred pounds per mile, it can be seen that the difference in charges on shipments of several thousand pounds moving over hundreds of miles would be significant. Here again are subtle and unmeasured forces which affect the economic opportunity of the different states unequally. To measure whether the differences are unreasonable requires detailed consideration of comparative carrier traffic volumes and operating costs in the different areas.

Impact of Class Rate Percentage Relationships

Chapter 6 (and accompanying exhibits) also presents information about the effective relationship of class rates to class ratings. These data refute the allegation that the percentage relationships of class rates differ markedly from their supposed relationships as represented by the class rating categories. In general, class rates in the region are in line with their represented percentages. There are deviations which may have an economic impact, however. These occur mainly in the Middlewest Motor Freight Bureau tariffs sampled and the Pacific Inland Tariff Bureau tariff sampled and in Rocky Mountain Motor Tariff Bureau ICC RMB 301. (The balance of the Rocky Mountain tariffs sampled are at very nearly true percentages for all classes.)

Two tendencies may be noted. One is a slight discrimination against small shipments. The other is a tendency for rates on the lower classes to "floor out" at a true percentage higher than the stated class rating. Both of these practices place the shipper at a disadvantage which he may not recognize without analyzing the rate structure.

Impact of Commodity Rates

One economic effect which seems to recur in the above discussion is that the small shipper is placed at some disadvantage. This is especially true of the small shipper located in the small outlying town. The discussion of commodity rates in Chapter 7 points out also that commodity rates, because of high minimum weight requirements, are not directed to the small shipper.

The regional commodity rate situation does have an aspect which is very favorable to economic development, however. This is the great need of motor freight carriers for high value-per-pound outbound shipments which can afford to pay a larger share of operating costs than the present outbound traffic.

If a businessman, almost anywhere in the region, can establish a volume production of reasonably high value goods, he can find a motor carrier ready to establish attractive specific commodity rates for him. Once established, such a business can also (if the management is traffic-management oriented) have a substantial effect upon the modification of inbound commodity and even class rates.

Concluding Remark

The motor freight carrier industry in the United States has sometimes been referred to as "atomistic" or "fragmented" in nature. The effect of this characteristic can be seen in the rate structure (or structures) of the project study area. Much of the disorder or illogic or lack of uniformity seemingly present is probably due to local negotiations and local decisions having been made by many different small entrepreneurs in response to highly local needs over a long period of years. The tendency of motor carriers to merge into larger organizations and the

efforts of freight rate tariff publishing bureaus, as well as those of regulatory agencies, have undoubtedly improved the situation over what it was even a few years ago. The next chapter makes some suggestions as to possible areas or directions for future improvement.

CHAPTER 9

Possible Programs of Change

The previous chapter summarized characteristics of the motor freight carrier rate study in the project study area and cited potential effects upon regional or sub-regional economic development. This chapter suggests ways in which the rate structure and/or the regulation of it might be changed with possible effects on economic development. To indicate what is possible, a range of possibilities--from moderate to extreme--is objectively set forth. Subjectively, however, drastic action is not advocated as programs of moderation and negotiation are likely to be more palatable in the long run.

Mere Differences Not Necessarily Unreasonable

Moderate and studied action to change conditions cited in this report is advisable for another reason. Previous chapters have shown that different rate practices exist throughout the region under study; on first examination many of them seem illogical. This does not mean, however, that existing rates, rules, practices, and procedures are unjust or unreasonable. Discrimination, particularly price discrimination, is commonplace in our economic society. Transportation carriers practice discrimination by charging different rates for different types of traffic. Some discrimination is even encouraged by public tradition and policy such as reduced rates for members of the clergy or so-called "Section 22" rate reductions for government traffic. Discrimination, preference, and prejudice become objectionable under our system of regulating interstate commerce when they become unjust, undue, or unreasonable. Thus, determination of whether such differences as exist in rates, rules, practices, and procedures of motor freight carriers in the project study area are unjust, undue or unreasonable is properly the function of the appropriate regulatory agency.

Need for Further Information

Another factor for consideration is that although certain rates and practices may seem to be illogical, this conclusion may be unwarranted because the reasons for them are not clearly understood. This research report, therefore, becomes typical of research reports in general by including a plea for future research projects to develop more information.

In consideration of transportation rate matters, the plea is often made for the development of more and better information on carrier operating costs. This is not the plea in this case. Over the years, the Interstate Commerce Commission has developed substantial information about motor carrier costs. In addition, large modern motor carriers are managed in a sophisticated way and have a good knowledge of their costs. The

problem is often one of how to get them to reveal this knowledge. What is not generally known by government agencies dealing with transportation is the detail of what traffics are moving.

The volume of production of various products in different parts of the country can, of course, be generally determined from so-called census data. The "consist of traffic" or mix in which these products move over various modes, types of carriers, or routes, however, is virtually unknown. Generalizations as to imbalance in particular carrier operations or the percentage of empty mileage being experienced by certain modes or carrier types are meaningless without this information.

For many years the Interstate Commerce Commission, Bureau of Economics, has conducted a continuous sample of railroad waybills. This has resulted in the publication of carload waybill statistics giving territorial distribution of railroad traffic and revenue by commodity classes. Similar information is needed for motor freight carriers.

When the Interstate Commerce Commission began waybill sampling, collection of the data was a serious problem. Today in the age of computerization, collection of data would not be so great a problem. Some motor carriers and freight rate tariff publishing bureaus are presently tabulating and analyzing such information. Centralization of the data would require a substantial program. More specific traffic information than what presently exists is essential to any sensible program of change. Subsequent sections of this chapter assume the prior acquisition of such information before consideration of implementation.

Suggestions Related to Specific Findings of Report

Regardless of how implemented, any program of change for motor freight carriers in the project study area should have as its goal the creation of an orderly and, within economic limits, a uniform situation. Much of the variety found in the region is due to the nature of the growth of the industry from a fragmented structure of localized entrepreneurs to the present assembly of carriers with regional or national scope. Great development toward a truly "national" industry has occurred in the past few decades, and with encouragement will continue. To some extent, however, this development has left gaps at the local level. The small shipper in the small locality is possibly the party being most adversely affected economically by this growth and change. Although suggestions related to specific findings in previous chapters are necessarily interrelated, the following discussion is again structured, as much as possible, according to the order in which they appear in the report.

Carrier Service Availability

The supply of motor freight carrier transportation in the region is undoubtedly adequate. Traffic volume in some parts of the study area is so light that it would not support more than one carrier. Unfortunately, this creates a monopoly or pseudo-monopoly situation for the carrier in some small settlements and a problem arises as to how the shipper can force the carrier to provide a high quality of service.

Various suggestions with varying degrees of practicality can be made for improvement of service and service availability to small outlying points. A drastic suggestion could be government subsidy to "feeder" truck line operations serving small localities similar to the subsidization of local service air carriers. Conceivably, this concept could be tied to the "Transportation Facilitation Center" innovation suggested to the Department of Transportation by the Ralph M. Parsons Company.

Where poor or expensive carrier service is related to the carrier's reluctance to handle small shipments, a case can be made for the extension of operating authorities of carriers such as United Parcel Service who specialize in handling small shipments. Also to be considered are the encouragement of bus express and better postal service.

Where carriers voluntarily chose not to serve a point for which they are certificated, perhaps a sort of "use it or lose it" policy similar to that of air transport regulation could be employed. This would mean that when a motor freight carrier voluntarily restricted its service to only the more profitable parts of its route structure, this would become its officially certificated route structure. This would eliminate the problem of "dormant rights" which presently allows a certificated carrier not operating his entire route to protest the applications of other carriers to serve a similar route.

A related problem is that of historical certificate restrictions such as those which force carriers to follow circuitous routes between major points without allowing them to serve intermediate points, and such as those which limit carriers to a one-way haul. If any such limitations are still extant in the total carrier certificate system, they should be eliminated.

Routes affecting rates. Although motor freight carrier supply is probably generally adequate, not all points are accessible from all directions. Historical parallel development of highways and certificated carrier routes has caused some sparsely populated areas such as northeastern Montana and central Idaho to be served by circuitous routes. This has caused serious imbalance in certain rate structures. Where possible, such route patterns should be restructured to give such areas as equal access as possible to market areas in all directions.

Need for inventory of certificates. If information were complete, some super-authority could revise the entire motor carrier route structure of the project study area in response to the needs of the traffic. However, well organized information as to which carriers hold what rights to serve what routes and territories is as unavailable as information about the consist of the traffic. Issuance and change of motor carrier certificates has been done on a case-by-case basis and not in response to a master plan. Due to continuing mergers and consolidations, many modern certificates are so complex that the holders themselves are sometimes not precisely sure of every aspect of their operating authority. Complete inventory of existing certificates would probably be possible with the aid of electronic data processing. There is a question as to whether the

cost would be worth the effort. However, without such information and a master plan, carrier rate adjustments must continue to be made on a case-by-case basis as individual causes for action arise.

Through Rates, Arbitraries, Intermediate Application

The subjects of intermediate application, arbitrary rates, and rate groups have been thoroughly discussed in Chapters 4, 5, and 8. It is now appropriate to suggest different ways in which the situation could be changed.

One of the features of the present rate situation which is theoretically (and undoubtedly actually) objectionable from the shipper point of view is that motor freight carriers frequently charge more for a short haul than for a long haul (of the same kind of goods, over the same route, in the same direction, the shorter being included within the longer distance). This practice is forbidden to railroads by the Interstate Commerce Act but not to motor carriers.

In some cases, higher charges for short hauls result because of illogical relative location of rate groups. (See discussion of Colorado and Montana rate groups in Chapter 5 and accompanying exhibits, for example.) These are possibly due to historical route patterns.

Another instance of illogical rate group relationship can occur where the jurisdictions of different freight rate publishing bureaus overlap. This is seen in Exhibit 5.1, accompanying Chapter 5, which illustrates rates between Minneapolis and Colorado points.

Much can be done to eliminate such illogical relationships through negotiation between regulatory agencies (often at the state level) and carrier groups. This is also discussed subsequently.

Arbitrary rates. Perhaps a more frequent cause of short-haul charges being higher than long-haul charges is the imposition of arbitrary rates to small points outlying major freight traffic generating centers. Some alternate systems are possible.

One method is to simply make the use of arbitrary rates an orderly one. The arbitrary assessed can at least be the same between interchange point and final destination from all origins. Also, the practice would be more logical if the rate established were not "arbitary" but probably related to the cost of performing the service. In addition, use of such beyond charges could be restricted to points not named in rate groups and not applied to points listed in existing rate groups.

Another method is to make the rate groups to which through rates apply larger. Since this requires averaging of the costs of serving any point in the rate group, it would probably require raising the rate level to the major traffic-generating point in the rate group.

A third method is to make wide use of the principle of intermediate application. Thus, the rate to an outlying point would be

the rate to the next-beyond important freight-generating point or rate group.

Carrier reluctance. Large carrier organizations are often certificated to serve small outlying points as well as major freight-generating centers. Because costs are high and volumes are low, they are frequently reluctant to perform the distribution to these small towns, however. Therefore, they interline their shipments to small local carriers who are technically their competitors for the short haul. If there is a through rate published from the distant origin to the final (small outlying) destination, the carriers share the revenue by prorating it according to the number of miles each hauls the shipment or some other agreed upon basis. Often this results in too small a share to the short-haul carrier for him to cover his costs. If his share is increased, the same fate befalls the long-haul carrier. Thus, both carriers would prefer not to participate in a through rate to the small outlying point and seek methods of increasing short-haul revenue. Arbitrary rates are the result, and they are not always established in a logical, scientific manner but tend instead to be expediencies.

Making situations more uniform. Much can be done through the process of negotiation to introduce logic and order into rate structures. Ideally, this negotiation should be between interested shipper groups and carrier representatives such as freight rate bureaus. One facet of the transportation situation in sparsely populated regions, such as the project study area, is that shippers are not well informed about traffic management nor particularly interested in the finer points of purchasing transportation service, nor at all organized into interest groups. On the other hand, state regulatory agencies (Wyoming and New Mexico are good examples) have had some success in getting carriers to establish more orderly rate patterns. This, for instance, is one reason that rates per hundred pounds per mile are generally lower in New Mexico than in other states of the region and why the arbitrary rate situation is more orderly there.

Possible regulatory change. If the process of negotiation is deemed unsuitable, change in federal regulatory requirements for motor freight carriers could undoubtedly cause immediate response by the motor carriers. Changes designed to alter the situations described above could include making all or part of the following provisions of Part I of the Interstate Commerce Act applicable to motor freight carriers under Part II of the Act:

> Section 1, (4) It shall be the duty of every common carrier subject to this part to provide and furnish transportation upon reasonable request therefor, and to establish reasonable through routes with other such carriers, and just and reasonable rates, fares, charges, and classifications applicable thereto; and it shall be the duty of common carriers by railroad subject to this part to establish reasonable through routes with common carriers by water subject to part III, and just and reasonable rates, fares, charges, and classifications applicable thereto. It shall be the duty of every such common carrier establishing through

routes to provide reasonable facilities for operating such routes and to make reasonable rules and regulations with respect to their operation, and providing for reasonable compensation to those entitled thereto; and in case of joint rates, fares, or charges, to establish just, reasonable, and equitable divisions thereof, which shall not unduly prefer or prejudice any of such participating carriers.

As far as the project study area is concerned, it probably would not be necessary to include the provision pertaining to water carriers. A possible result of the application of this section to motor freight carriers would be a need to raise the level of the rate structure. This is because "equitable divisions" of revenue would require more revenue for delivery to outlying points and this cost would have to be averaged over the entire rate structure.

Section 4, (1) It shall be unlawful for any common carrier subject to this part or part III to charge or receive any greater compensation in the aggregate for the transportation of passengers, or of like kind of property, for a shorter than for a longer distance over the same line or route in the same direction, the shorter being included within the longer distance, or to charge any greater compensation as a through rate than the aggregate of the intermediate rates subject to the provisions of this part or part III, but this shall not be construed as authorizing any common carrier within the terms of this part or part III to charge or receive as great compensation for a shorter as for a longer distance.

The reference to passengers and carriers subject to part III have no application in the current instance, but the passage is quoted as it stands. The application of this provision to motor freight carriers would probably insure wide extension of the principle of intermediate application of rates. It would also insure that distance relationships of the through routes and joint rates required by the previously cited Section 1, (4) were orderly and logical. That is, each rate group would bear a logical relationship to the one ahead of it and the one beyond it, contrary to what is now sometimes the case.

Section 15, (8) In all cases where at the time of delivery of property to any railroad corporation being a common carrier, for transportation subject to the provisions of this part to any point of destination, between which and the point of such delivery for shipment two or more through routes and through rates shall have been established as in this part provided to which through routes and through rates such carrier is a party, the person, firm, or corporation making such shipment, subject to such reasonable exceptions and regulations as the Interstate Commerce Commission shall from time to time prescribe, shall have the right to

> designate in writing by which of such through routes such property shall be transported to destination, and it shall thereupon be the duty of the initial carrier to route said property and issue a through bill of lading therefor as so directed, and to transport said property over its own line or lines and deliver the same to a connecting line or lines according to such through route, and it shall be the duty of each of said connecting carriers to receive said property and transport it over the said line or lines and deliver the same to the next succeeding carrier or consignee according to the routing instructions in said bill of lading: Provided, however, That the shipper shall in all instances have the right to determine, where competing lines of railroad constitute portions of a through line or route, over which of said competing lines so constituting a portion of said through line or route his freight shall be transported.

Application of this provision to motor freight carriers would be a logical extension of the previous two provisions. Also, it would help to implement them by involving the customer in the choice of his best alternative, by allowing him to choose the exact route his shipment was to follow.

Rate Levels and Class Rate Percentage Relationships

Chapter 6 of this report deals with the comparative levels of rates per hundred pounds per mile in the project study area. It also covers the matter of percentage relationship between rates for different classes of freight.

Some difference in class rate level in different states was noted; also, there is some evidence that persuasive action by state regulatory agencies can cause carriers to modify these rate levels. This does not necessarily mean that rates per hundred pounds per mile should be uniform throughout the project study area. As transportation characteristics of certain traffics differ, so will transportation costs differ. Therefore, the proper relationship of rates to costs in any area is again a task for the proper regulatory agency.

In the matter of the percentage relationship between rates for different classes of freight, it would seem again that logic and order should be made to prevail. If the carriers say they are using a system in which class rates are stated percentages of a so-called Class 100 rate, let the percentages be accurate. If a rate purports to be 50 percent of Class 100, let it honestly be 50 percent and not 60 or 70. If the carriers wish to publish no rate lower than "Class 47" let them frankly say so instead of of erroneously labeling the rate "Class 35."

Commodity Rates

The final subject for which data were examined in this study was that of commodity rates. Here, very few suggestions for change would be

appropriate. Motor freight carriers in the region are very cooperative in establishing commodity rates which will gain profitable traffic for them. Commodity rates are, by their nature, special rates for special situations and therefore are not applied generally or uniformly all over a territory.

The same general cautions which were made at the beginning of this chapter apply as objectives for the commodity rate structure; it should be orderly and it should be based on adequate information. The publication of "paper" rates which move no traffic should continue to be avoided in order to simplify tariff construction and reduce confusion. Regulatory agencies should, of course, closely supervise commodity rates to see that they are compensatory to the carriers.

Closing Remarks

Hopefully, this study has produced some data which was not previously available in organized fashion. Examination of this data has led to the above statement of an array of suggestions for possible change. Orderly, moderate change is advocated rather than precipitate action. This change should be based on adequate information, but this study should not be regarded as a terminal point in collecting such information.